# HP Designjet Z6100 Printer series

# Service manual

invent

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**WARNING**

The procedures described in this manual are to be performed by HP-qualified service personnel only.

**Electrical Shock Hazard**

Serious shock hazard leading to death or injury may result if you do not take the following precautions:

- Ensure that the ac power outlet (mains) has a protective earth (ground) terminal.

- Disconnect the Printer from the power source prior to performing any maintenance.

- Prevent water or any other liquids from running onto electrical components or circuits, or through openings in the enclosure.

**Electrostatic Discharge**

Refer to the beginning of Chapter 4of this manual, for precautions you should take to prevent damage to the Printer circuits from electrostatic discharge.

**Safety Symbols**

General definitions of safety symbols are given immediately after the table of contents.

**WARNING**

The Warning symbol calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in personal injury. Do not proceed beyond a Warning symbol until the indicated conditions are fully understood and met.

**CAUTION**

The Caution symbol calls attention to an operating procedure, practice, or the like, which, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the product. Do not proceed beyond a Caution symbol until the indicated conditions are fully understood and met.

# HP Designjet Z6100 Printer series

## Service manual

# Using this Manual

## Purpose

This Service Manual contains information necessary to test, calibrate and service:

- HP Designjet Z6100 42-inch Printer (Model Q6651A)
- HP Designjet Z6100 60-inch Printer (Model Q6652A)

For information about using these printers, refer to the corresponding User and Quick Reference Guides.

## Readership

The procedures described in this Service Manual are to be performed by HP Certified service personnel only.

## Part Numbers

Part Numbers for Printer options, accessories and service parts are located in Chapter 7.

## Conventions

A small arrow ⇒ is used to indicate other parts of the Service Manual where you can find information related to the topic you are consulting.

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# Troubleshooting the printer

Refer to Section 6 for troubleshooting Image Qulaity issues.

## Printer Education and Training

Before any attempt is made to troubleshoot the printer, it is critical that you have the relevant training on the HP Designjet Z6100 Printer series. If you are not trained on this printer, please contact HP Education or HP Training to enquire about becoming 'HP Service Qualified' for this printer.

## Firmware upgrade

The first step to take when trying to clear an errror with the printer is to check that the firmware installed in the printer is the latest available. Firmware updates often include fixes for some of the problems that are found in the following pages, simply updating the firmware can often resolve the problem. New firmware can be downloaded from the following url: http:www.hp.com/go/designjet/downloads

If the error with the printer does not allow you to upgrade the firmware using the normal process, try upgrading the firmware using the emergency .plt file procedure ⇒ page 130

# Troubleshooting system error codes

Chapter 2, System Error Codes contains a list of system error codes and their respective descriptions and recommended corrective actions. Only try one recommended action at a time and check if the error code has disappeared.

If you have an error code which is not documented in this Service Manual or you have an error which you cannot resolve, then report the error to the HP Response Center or the nearest HP Support Office. When reporting the error, have the following information ready:

- Model and Serial Number of the printer.
- Which firmware revision the printer is using (See Note below). Check firmware in Utilities / Statistics / Code rev.
- The complete error number.

**NOTE:** When reporting the System Error Code, make sure that you supply the full Error Code and the firmware version. Without this information, HP Support Personnel cannot help you.

- The Service Configuration Print.
- The Current configuration sheet.
- Which software application the customer is using (name, version, etc.).

# Performing a service test on a failed assembly

If possible, always perform a Service Test on the component/assembly that you are about to replace, just to make sure that is the component/assembly that has failed.

**NOTE:** If the test on that component/assembly passes, you should NOT replace it.

For information on the Service Tests and how to use them see Chapter 4, Service Tests and Utilities.

# Performing the necessary service calibrations

Is the printer calibrated correctly after replacing a component? For information on the Service Calibrations and how to use them see Chapter 5, Service Calibrations.

**NOTE:** Remember that certain Calibrations are required even if an Assembly has been disassembled to gain access to another Assembly or Component.

# Solving print quality problems

Whenever a Print Quality problem appears, it is advisable to print the Diagnostic Print to help diagnose the problem. The Diagnostic Print will help you differentiate between possible printhead errors and other problems such as incorrect front-panel selection, driver or RIP configuration or mechanical problems. For information on solving Print Quality problems see Chapter 6, Print Quality.

# The printer does not power on

To resolve printer power up problems, do the following:

1. Check that the power cord is connected correctly to the Printer and to the Power Socket.
2. Check that the Power Switch on the BACK of the Printer is in the ON position.
3. Check to see if any of the LEDs on the Power Switch are On. If any of the LEDs are On, then refer to See page 15 for more information.
4. Check that the Front-Panel Cable is correctly connected to the Electronics Module. Also make sure that the Front-Panel cable is not damaged.
5. Replace the CPU Fan ⇒ See page 371
6. Replace the Power Supply Unit ⇒ See page 379.

# Printer hangs during printing and displays ‘processing’

It has been seen under certain circumstances that the printer hangs whilst printing, this may happen immediately after printing, or only a partial print. In some cases when this occurs if the machine is rebooted a system error 79:04 is displayed, although rebooting again appears to clear this error. After this point, although the printer displays that it is in the “Ready” state, attempting to print anymore plots will once again hang the printer, including internal demo plots.

## Reason

The reason for this error is that a large spooled file (11Gb for example) has been sent to the printer and has been placed in the disk partition which is related to the print queue. The file completely fills up all the disk space, because of this it will never successfully print, and so the file remains in the disk partition. Even after restarting the printer the file remains, subsequent print requests also fail as there is not sufficient space available in the partition to process anything else.

## Solution

Perform the following few steps to clear the error.

1. Check that the firmware is the latest available (at least 7.0.03)
2. Turn Off and ON the printer.
3. Set Queue to OFF.
4. Set 'When Start Printing' to 'Immediately'.

Please guide the customer through the front panel of the printer to set up the "Queue" to "OFF" and "When Start Printing" to "Immediately".

### Wipe disk solution

If the above procedure does not clear the error, use the wipe the hard disk procedure (Unsecure mode) ⇒ See page 145. This will delete all previous jobs, ICC profile, media profiles that were present on the hard disk. This procedure has an advantage for the customer in that it solves the issue without the need to wait for an onsite engineer to come to their premises and remove and replace the HDD (which would also have the same affect of deleting all the previous jobs, ICC profiles and media profiles). The whole procedure should not take more than 30-35 minutes.

Important step is that you need to select the Unsecure mode

## The printer continuously rejects printheads

To resolve printhead rejection problems, do the following:

1. Clean the flex contacts on the Printhead and in the Carriage Assembly using the Carriage Interconnect Wiper (Refer to Chapter 3) and try again.
2. If ALL the Printheads are rejected (the status message on the Front Panel does NOT show "OK" for ALL the Printheads) then perform the Electronic Systems Test ⇒ See page 105.

## A new Maintenenace Cartridge is incorrectly detected as 'used'

This can occur if the printer has detected the previous Maintenenace Cartridge was nearly full, and when a new Maintenenace Cartridge is installed the Front Panel displays an error that the cartridge is 'used'. To resolve the problem, do the following:

1. Ensure the firmware installed in the printer is the latest available.
2. Once the latest firmware is installed repeat the Maintenance installation procedure with the same cartridge.
3. Manuall reset the counter of the Maintenance Cartridge ⇒ See page 138

## Cover sensors are not working

To resolve cover sensor problems, do the following:

1. Perform the Sensors Test ⇒ See page 112.
2. Check if the cable for the faulty sensor is not damaged and is connected correctly.
3. Replace the faulty Sensor.

# The line sensor has problems detecting media

To resolve line sensor media detection problems, do the following:

1. Check the type of media that is being used since the Line sensor may have problems detecting transparent media or some types of Non-HP media. Try loading white HP media in to the Printer and check if the Line sensor detects it.
2. Excessive ink deposits on the Platen surface can fool the sensor by reflecting the light. Clean the Center Platen.
3. Clean the Encoder Strip ⇒ See page 454.
4. The Line Sensor is not calibrated correctly. Perform the Line Sensor Calibration ⇒ See page 163.
5. The Line Sensor is damaged or faulty. Replace the Line Sensor ⇒ See page 390.

# Troubleshooting Media Jams/Printhead Crashes

**NOTE:** If you are using HP Coated Media when the problem occurred, please also refer to Page 1-6.

The failure modes “media jam” and “head crash” are grouped together because in many cases a media jam causes the media to lift up into the Carriage path and cause a Printhead crash, thus causing many media jam failures to be reported as head crashes.

1. Did the media jam occur when loading media?

**NOTE:** When clearing a media jam, sometimes media is stuck in the paper path. To clear this, you must lift the Media Lever and insert thicker media into the paper path to push out the media that is still stuck there.

   - If the client has had media jams, it is common for pieces of media to get stuck in the media path. Clear the media path.

2. Is the customer using non-HP media?
   - The use of non-HP media can easily be the cause of media jams and head crashes (especially head crashes because HP media is specially formulated to avoid cockle, one of the primary causes of head crashes). If the media is not HP approved, advise the customer to use HP media and check to see if the problem is now solved.
3. Check that the Vacuum Fan works correctly.

# Troubleshooting shutdowns

If a shutdown occurs, you will get the message “Switch Power Off” followed by one of these messages:

- Check Maintenance Cartridge Path.
- Check Paper Path.

- Check Printhead Path.

**NOTE:** A shutdown in each path will require different steps to resolve the problem as explained below. In each case, make sure that you power OFF the printer before attempting any procedures to resolve the problem.

## Printhead Maintenance Cartridge Path

Open the right door of the printer and check for any visible obstacles restricting the movement of the Service Station. Manually move the Service Station, checking for smooth and free movement.

## Paper Path

To resolve paper path problems, do the following:

1. Open the Window and check for any visible obstacles restricting the movement of the Drive Roller. Make sure that the mylar is not damaged. If there is a wrinkled mass of media inside the paper path, lift the Pinch wheels (using the Media Load Handles) and clear the obstruction.
2. If this shutdown happens at the end of a Roll of Media, it could be because the media is stuck firmly to the Roll. Lift the Pinch wheels (using the Media Load Handles) and pull the media clear.
3. Replace media spindle if broken.
4. Replace the Media-Axis Motor ⇒ See page 349.

## Printhead path

When a shutdown occurs in the Printhead path, you will get the message “Switch Power Off / Check Printhead Path (*). The (*) will be a number, which will give an indication on where the failure occurred:

## PWM shutdown

To resolve a PWM shutdown, do the following:

1. Clean Slider Rods and Apply Oil along the complete axis of the Slider Rods. After applying the Oil, perform the Scan-Axis Test ⇒ See page 97 and check that the values are within the given limits.
2. Clean the Encoder Strip ⇒ See page 454.
3. Replace the Scan-Axis Motor ⇒ See page 346.

## Velocity shutdown

To resolve a velocity shutdown, do the following:

1. Open the Window and check for any visible obstacles restricting the movement of the Carriage Assembly. Try and move the Carriage Assembly manually, checking for smooth and free movement.
2. Check that the Encoder Strip is clean. If necessary, clean Encoder Strip using a damp cloth.

## Energy shutdown

To resolve an energy shutdown, do the following:

1. Clean Slider Rods and Apply Oil along the complete axis of the Slide Rods. After applying the Oil, perform the Scan-Axis Test ⇒ See page 97 and check that the values are within the given limits.
2. Clean the Encoder Strip ⇒ See page 454.

3. Replace the Scan-Axis Motor ⇒ See page 346.

# Vacuum suction much lower at high altitudes

At altitudes above 3,000 meters, the vacuum force holding down the media will be lower, therefore the media will not be held in place properly causing:

- Ink Smearing on the Media.
- Printhead crashes against the Media.
- Roll Media loading problems (low probability).

PRINTER LIMITATION - NO SOLUTION AVAILABLE.

# Banding at variable extreme environmental conditions

**NOTE:** This problem is only applicable if the OMAS is disabled.

Since the Accuracy Calibration has been done at normal environmental conditions, printing in extreme environmental conditions will cause banding because the advance of the Drive Roller does not correspond to the same conditions that the calibration was done in. To solve the problem, try the following:

Perform the Accuracy Calibration in the new environmental conditions (Refer to the User's Guide).

# Printhead Crashes/Smears on High Density Prints Using Coated Media

High density prints can cause cockle mainly on HP Coated Media. This causes two main problems:

1. Cockling in the borders - Because the printer places too much ink on the Coated Media, the borders of the print become raised, causing the Printhead to crash against the media. To solve the problem, try the following:
   - Change the paper margins to 15mm, either in the Front Panel or in the Driver. If the customer is printing PostScript images, send them a PPD file containing the extended margins of 15mm.
2. Cockling within the print - If the Printer places too much ink within the print, the media starts to ripple, causing the Printhead to smear against the media. To solve the problem, try the following:
   - Check in the Front Panel if **Ink Limiting** is ON or OFF. If Ink Limiting is OFF, turn it ON.
   - Never use HP Coated Media for High Density prints. As a substitute use HP Heavy Coated Media.

# Banding due to ink cartridge replacement while printing

A user has removed the Ink Cartridge while the printer was printing, which has caused the printer to stop. If the user does not replace the Ink Cartridge immediately, when the printer starts to print again, a band will appear in the position where the printing restarted. This is because the wet ink interacts with the dried ink on the media causing the band to appear. To solve the problem, try the following:

- Do NOT remove the Ink Cartridge while the Printer is Printing. Only replace/remove Ink Cartridges in between Prints.
- If the Ink Cartridge was replaced due to the “Empty” status on the Front Panel, then advise the customer to replace the Ink Cartridge when the “Very Low” status is showing on the Front Panel.
- Reprint the file (without remove the Ink Cartridge).

## 34" Rice Paper not supported

Roll length is 34" (Non-standard) and the pinch wheels can't control edge of media causing ink smears and Printhead crashes in middle of prints with or without area fills.

PRINTER LIMITATION - NO SOLUTION AVAILABLE.

## Worm marks on HP Coated media with light area fills

Light bands (S-shaped) in Paper axis direction where light area fills are printed, causing unacceptable Image Quality defect.

- Print the Service Configuration Print and check if the level of Humidity is very low (below 30%). Increasing humidity may help in reducing the severity of the problem.

**NOTE:** The media is causing the problem and NOT the Printer. Do not attempt to try and replace Printer parts to solve this problem.

## Solving Media-Handling Problems

The Front Panel Keeps Indicating that Media Is Misaligned or Incorrectly Positioned.

- The roll may be loaded the wrong way. The paper should load over the roll toward you.
- Check that the paper is correctly loaded onto the spindle.
- The paper may be loaded at an angle. The right-hand edge must be aligned with the blue line on the Print Platen.

**NOTE:** Ensure that the paper is wrapped tightly on the roll. This is a very important step to remember because if this is not done, the media may be loaded at an angle, causing the media to be rejected.

## Difficult to load media “Too much skew”

If you encounter a high failure rate when loading media and the Front Panel reports “Too Much Skew” it is likely that:

- The encoder strip must be cleaned (this can be carried out by the customer using the User Maintenance Kit).
- The Line Sensor must be cleaned.
- The Blue Line calibration must be performed (see “8. Platen Blue Line Calibration” on page 177).

# Troublshooting a failure with the Take UP Reel (TUR)

Use this section to troubleshoot failures with the TakeUP Reel.

## Take Up Reel LED status information

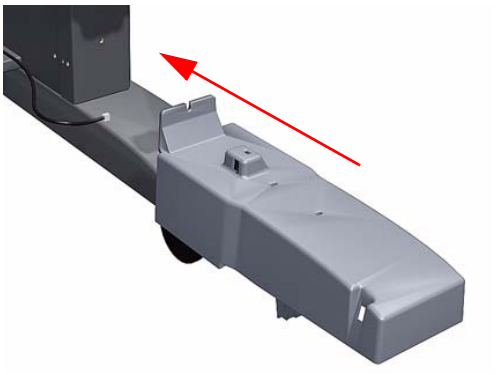
| LED status | Issue | Print job interupted | Possible cause | Print job interrupted? |
|---|---|---|---|---|
| Blinking quickly | Take Up Reel not winding | Yes | Sensor beam blocked for more than 3 seconds | Ensure the Take Up Reel sensors are not blocked by a strip of paper, the collection bin or other objects.<br>Also ensure the Take Up Reel power switch is in the On position. |
| Blinking slowly | Take Up Reel not winding | No | The sensor cables are loose or unplugged | Ensure the sensor cables are correctly connected. |
| Solid red | Take Up Reel not winding | No | There is too much resistance on the Take Up Reel motor | ENSURE THAT THE TUR Spindle Lever is CLOSED! Ensure the paper is not winding too tightly. A loop-shaping core should be inserted and hanging down. |
| Solid green | Take Up Reel not winding | No | The Take Up Reel power switch is in the Off position | Ensure the Take Up Reel power switch is in the On position. |
| Solid green | Take Up Reel winding in the wrong direction, and not stoppinjg the job. | No | The Take Up Reel wind direction switch is in the wrong winding position. after 3 seconds, the printer will recognize the problem and interupt the print job. In this case, see the first error listed in this table. | Flip the Take Up Reel wind-direction switch to the correct position. |

**NOTE:** If the LED is flashing but there is no message on the front panel, restart the printer.

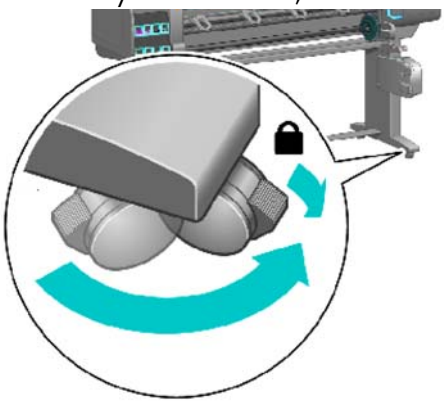
## Checking the Take Up Reel is correctly installed

Many system error codes are displayed as a result of the Take UP Reel not being installed correctly or because parts have moved or become dislodged from their correct positions. This troubleshooting procedure checks the machnical installation of the Take Up Reel.

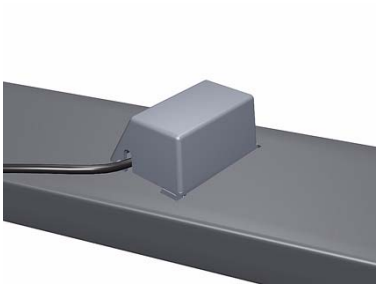
1. Check that the Take UP Reel sensor unit is correctly installed on the right foot.

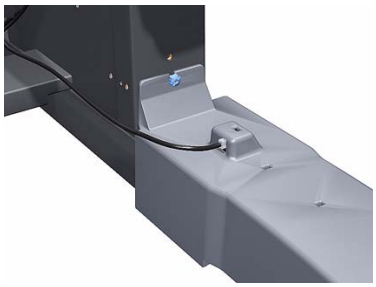


2. To correctly install the foot, the wheel has to be positioned as shown.

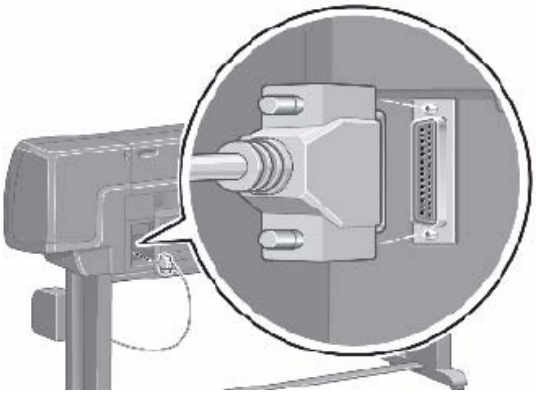


3. Check the cables linking the sensors to the Take Up Reel Motor Assembly are correctly connected.





4. Check that the Take UP Reel motor assembly is correctly connected to the rear of the printer.



## How the Take UP Reel Works

There are two different setups:

1. The Take Up Reel has been installed via the front panel from the media menu – how to check it: If the words 'Take Up Reel installed' is blanked out, this means that the Take Up Reel is not installed in the front panel.
2. The Take UP Reel has not been install via the front panel – how to check it: When selecting the media menu, there is no line 'Take Up Reel installed'. This does not mean that the Take Up Reel will not work, it just means that if there is a paper jam detected by the Take Up Reel, there will be no warning system error displayed on the front panel. The printer will not stop.

### How to install the Take Up Reel:

From the Media menu -> Take Up Reel -> Enable Take Up Reel. The main differences between the two modes (Take Up Reel installed or not installed on the front panel), what will happen if the Take Up Reel is installed:

- In case of Take Up Reel Paper jam system error, a warning is reported on the front panel, and the printer is no more printing (pause)
- The cutter is disabled between jobs
- When unloading the media, the front panel will ask you to manually cut the media.

### How it works?

When the bottom of the 'loop shaper' is lower enough and it cuts the signal between the 2 sensors, the Take Up Reel starts to move the motor until the signal between the 2 sensors is passing through again.

If after the few seconds of turning the Take Up Reel, the signal between two sensors is still cut, the Take Up Reel reports a 'Take Up Reel paper jam' error:

- In all case, the LED of the Take Up Reel is blinking quickly
- and if the Take Up Reel is enabled on the front panel, a 'Take Up Reel' paper jam will be displayed.

## Using the buzzer at power-up for troubleshooting problems

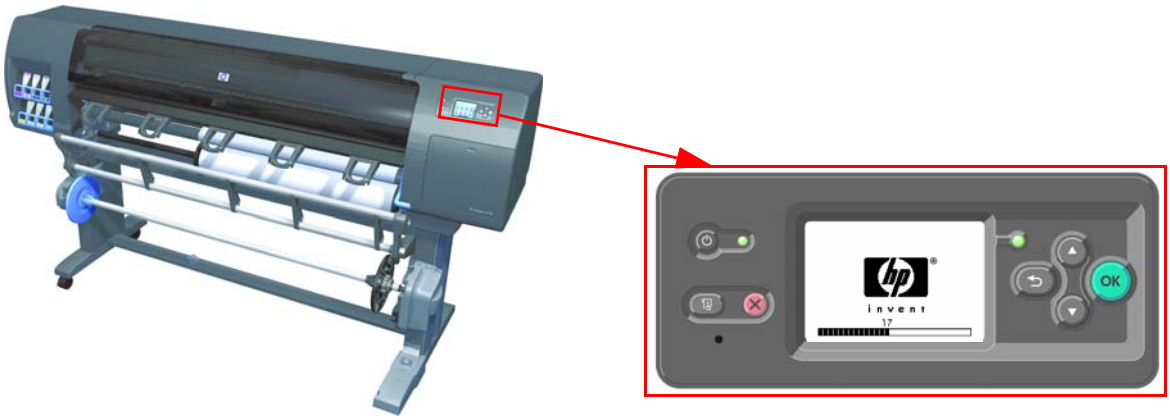
When the Printer is powered up, it doesn't make a "Beeping Sound" until it is completely powered-up and ready to use. If there is a beep during the power-up sequence, this may signify that there is a problem within the Electronics Module. The following table will help you to use the "Beeping Sound" to diagnose certain problem:

| Number of Beeps | Problem Description | Corrective Action |
|---|---|---|
| 1 | Processor absent | • Replace the Main PCA ⇒ See page 375. |
| 2 | Faulty Main PCA or PSU | • Replace the Main PCA ⇒ See page 375.<br>• Replace the PSU ⇒ See page 379. |
| 3 | Faulty Memory Module | • Check that the Memory Module is installed correctly.<br>• Try installing the Memory Module in the other Memory slot and check if the problem reappears.<br>• If the problem reappears, replace the Memory Module ⇒ See page 373.<br>• If the problem does NOT reappear, then the original slot could be faulty. In this case, replace the Main PCA ⇒ See page 375. |

| Number of Beeps | Problem Description | Corrective Action |
|---|---|---|
| 4 | Faulty Video Card (not used) | • Replace the Main PCA ⇒ See page 375. |
| 5 | Faulty PCI Card | • Replace the Main PCA ⇒ See page 375 |
| 6 | BIOS Damaged | • Replace the Main PCA ⇒ See page 375 |
| 7 | Motherboard damaged | • Replace the Main PCA ⇒ See page 375 |
| 8 | Hard Disk Drive damaged or missing | • Remove the Main PCA Cover and (with the Printer switch On) check that the HDD is spinning (you should feel it spinning when you touch it or at least hear it spinning). If the HDD is **not** spinning, then it could be damaged. In this case, replace the HDD ⇒ See page 377.<br>• Make sure that ALL cables connected to the HDD are not damaged and are connected correctly.<br>• Replace the HDD ⇒ See page 377<br>• Replace the Main PCA ⇒ See page 375 |

## Using the Power-up Sequence to Troubleshoot

When the Printer is powered up, it performs the Boot-UP sequence which initializes the major components of the Printer. If for some reason the Boot-Up sequence fails because a components has failed to initialize, the following explanations will help you to locate the failing component.




| Step | Initialization Process |
|---|---|
| BULNEX KERNEL BOOT | |
| 30 | rc.sysinit rerun through initlog. |
| 29 | • Environmental variables PATH, NETWORKING, HOSTNAME set.<br>• Source /etc/init.d functions. |
| 28 | • Fix console loglevel.<br>• Mount /proc.<br>• Dismount the initrd, if necessary.<br>• Configure kernel parameters. |
| 27 | Set the system clock. |
| 26 | Load keymap. |

| Step | Initialization Process |
|---|---|
| 25 | Load system font. |
| 24 | Start up swapping. |
| 23 | • Set the hostname.<br>• Initialize USB controller and HID devices |
| 22 | • Set variables for options to be later used for filesystem check<br>• Turn Off DMA on CD-ROMs<br>• Turn On Hard Disk optimization |
| 21 | Perform file system check on root volume. |
| 20 | Update quotas if fsck was run on root |
| 19 | Setup pnp |
| 18 | • Remount the root filesystem read-write.<br>• LVM initialization.<br>• Clear mtab.<br>• Enter root, /proc and (potentially /proc/bus/usb and devfs into mtab.<br>• Remove /lib/modules/preferred and /lib/modules/default.<br>• Tweak isapnp settings if needed.<br>• Load sound modules if the need persistent DMA buffers. |
| 17 | • Load modules from /etc/rc.modules.<br>• File system check.<br>• Add raid devices. |
| 16 | • Setup Logical Volume Management.<br>• Check filesystems on all volumes found on /etc/fstab. |
| 15 | Mount local filesystems. |
| 14 | Check remaining quotas other than root. |
| 13 | Enable local filesystem quotas. |
| 12 | • Configure machine if necessary (if the respective configure files exist).<br>• Reread in network configuration data. |
| 11 | • Clean out /etc, (w/u)tmpx files, /var.<br>• Reset pam_console permissions.<br>• Cleanup utmp/wtmp.<br>• Delete X locks.<br>• Delete VNC and X locks.<br>• Delete Postgres sockets.<br>• Turn On swap in case we swap to files. |
| 10 | • Initialize the Serial Ports.<br>• If a SCSI tape has been detected, load the st module unconditionally.<br>• Load usb storage to match most other things.<br>• If ide-scsi is required, load it.<br>• Generate a header that defines the boot kernel. |
| 9 | • Dump the syslog ring in /var/log/dmesg.<br>• Keep kernel symbols in /var/log/ksyms.<br>• Create the crash indicator flag to warn on crashes, offer fsck with timeout. |
| 8 | Export this variable BOOT_PART and INSTALL_PART. |
| | PRINT APPLICATION STARTING POINT |
| 7 | IO kernel mode initialization (basically). |
| 6 | Printer Application Infrastructure startup. |

| Step | Initialization Process |
|---|---|
| 5 | Printer IO startup. |
| 4 | Front Panel application startup (but wait for engine launching, i.e. Front Panel is not cleared yet). |
| 3 | Engine startup, start EE and Mechanical initialization. |
| 2 | HPGL/PS parsers startup. |
| 1 | All subsystems launched.<br>Wait for Front Panel application to clear the Front Panel and start signaling the initialization sequence. |

## Corrective Actions for Power-Up Problems

To resolve power-up problems, use the following corrective actions:

1. If the Printer's Power-Up process stops when the front panel is displaying the number **17**, this indicates that there is a problem with the file system on the Printer's Hard Disk Drive, so the Printer is checking the whole file system and making any necessary corrections. This problem can arise when there has been a power cut while the Printer was switched On, or if there is a physical problem with the Hard Disk Drive.

   Checking the whole file system normally takes about half an hour (but could take much longer). There is nothing that can be done to speed up the file checking process. If you turn Off the Printer during the checking process, the file system check will restart whenever you turn it On again.

   If you experience this problem repeatedly when there has been no power cut, then this could mean that the Hard Disk Drive is faulty. In this case, replace the Hard Disk Drive ⇒ See page 377.

2. If the printer's start-up process stops when the front panel is displaying any number between **1** to **30**, then try the following:

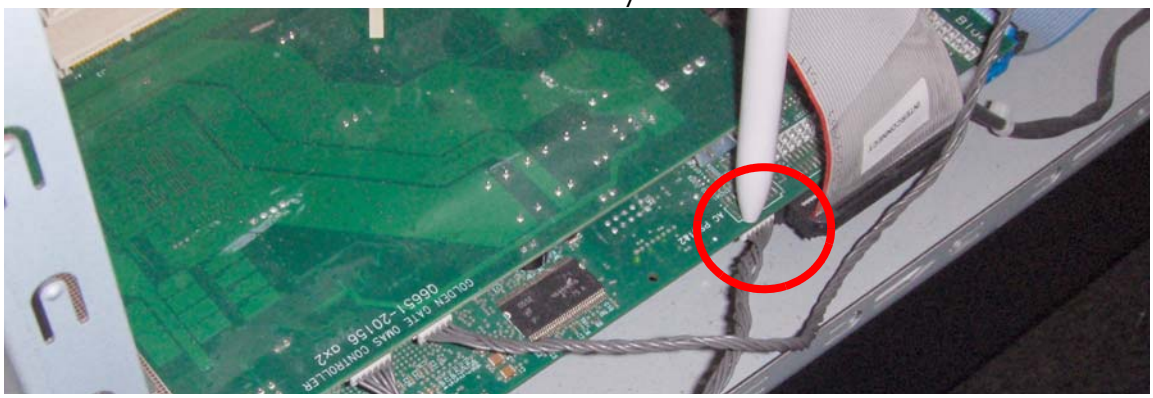
   - Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
   - If the Printer continues to stop during the power-up process, replace the Hard Disk Drive ⇒ See page 377.

# Troubleshooting OMAS problem

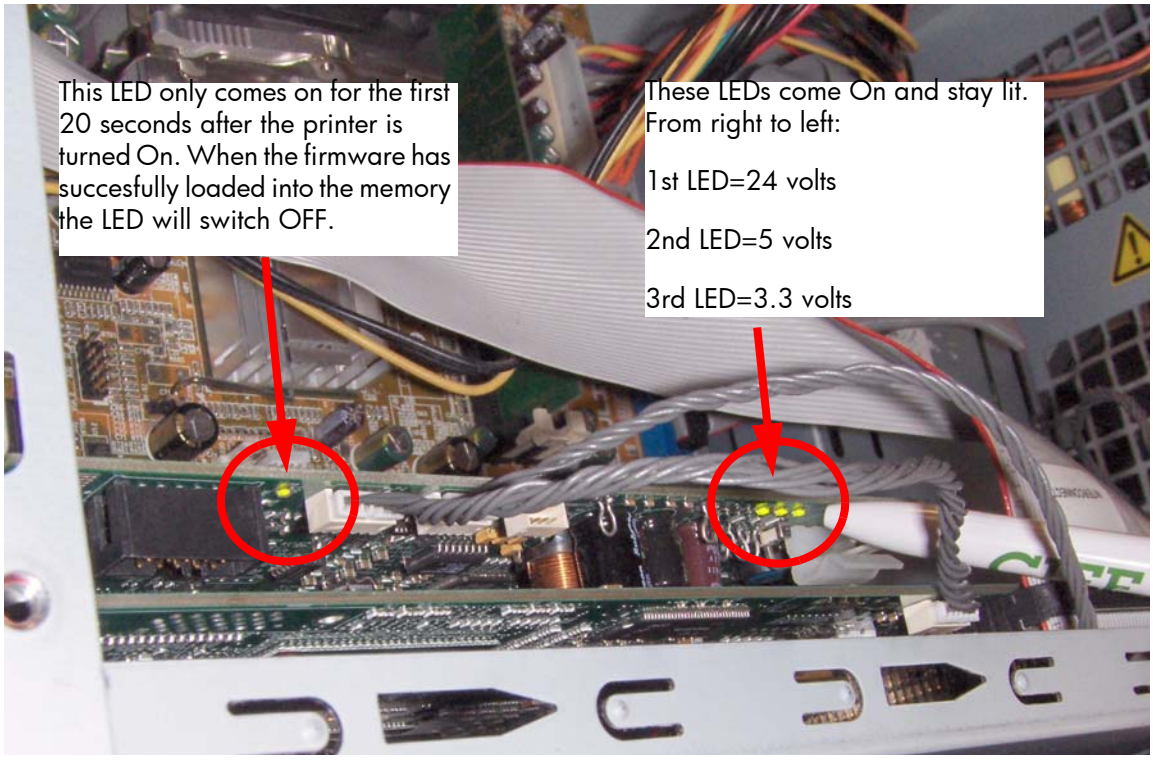
A problem with the OMAS board may cause the printer to display a **50.2:10 service error,** this can be fixed by checking the following connections.

1. Check the CAN Cable is correctly connected.

2. Check the other end of the CAN cable is also correctly connected

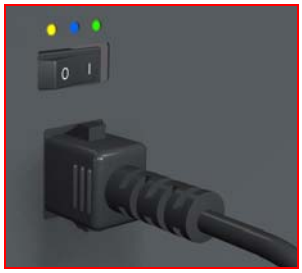


3. Check the LEDs under the OMAS board.


This LED only comes on for the first 20 seconds after the printer is turned On. When the firmware has succesfully loaded into the memory the LED will switch OFF.
These LEDs come On and stay lit. From right to left:
1st LED=24 volts
2nd LED=5 volts
3rd LED=3.3 volts

# Using the Power Switch LEDs to Troubleshoot

In certain circumstances, the LEDs located on top of the power switch (located at the rear of the Printer) can help to troubleshoot the Printer. The LEDs can either be ON or Off and using different combinations can indicate different problems:



Amber is on the Left
Blue is in the center
Green is on the Right

Make sure you look directly at the LEDs and not at an angle.

1. When only the **Amber LED** is On:
   - The Printer has been switched Off from the Front Panel (after having pressed the On/Off button).
   - The Power Supply Unit only delivers a 5 V "Standby"; power that is needed to restart the Printer after the Front Panel On/Off button is pressed (the Formatter/Main PCA will initiate the Printer to start).
2. When the **Blue LED** is On: Deliver standard "ATX" power for the Electronics Module PCAs (+12V, +5V, -5V, -12V, etc...). All the functions of the Electronics Module are fully operational (EWS, etc...).
3. When the **Green LED** is On: Deliver "analog" 24V and 42V to enable printing.

The Printer monitors and reports different signals: PSU fan issues, 24V and 42V delivery failures (specific System Error reported pointing to PSU failure).

| PSU Blue LED Status | PSU Green LED Status | Left LED (on Front Panel) Status | Printer Status |
|---|---|---|---|
| ON | OFF | Red (Front Panel Black) | Standby (with Embedded Web Server up and running) |
| ON | OFF | Green (flashing) | Initializing |
| ON | ON | Green | Ready (but not printing) |
| ON | ON | Green | Printing or preparing to print |
| OFF | ON | Any | Not possible |
| ON | ON | Red (Front Panel Black) | Not possible |

# Using the PCA LEDs to Troubleshoot

In certain circumstances, the LEDs located on the Interconnect PCA and PrintMech PCA can help to troubleshoot the Printer. The LEDs can either be ON or Off and using different combinations can indicate different problems.

## Interconnect PCA

The following illustration shows the locations of the LEDs on the Interconnect PCA

**Interconnect PCA**

**5V -** Comes from the PSU after the fuse on Interconnect PCA. Used to power On Front Panel and some Interconnect Electronics. Should be ON at the same time as Blue Power Switch LED.

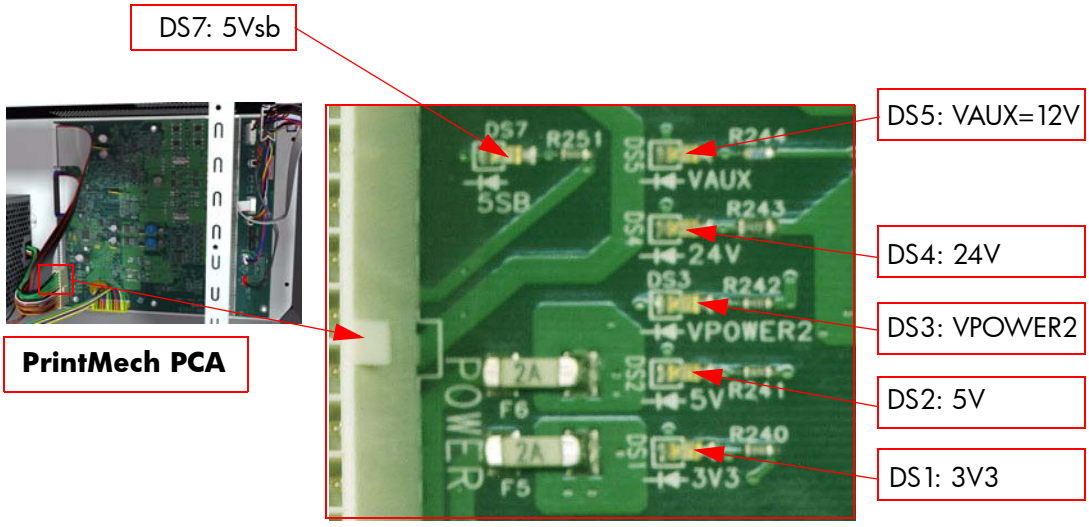
**5Vsb -** Comes from the PSU after the fuse on Interconnect PCA. Used to power On the Printer from the Front Panel. Should be ON at the same time as Blue or Amber Power Switch LED.

**24V -** Comes from the PSU after a fuse on the PrintMech PCA.

**VPOWER2 -** Comes from the PSU (42V) after a fuse on the Interconnect PCA. Used to power the Carriage PCA. Should be ON at the same time as Green Power Switch LED.

## PrintMech PCA

The following illustration shows the locations of the LEDs on the PrintMech PCA.




**5Vsb -** Comes from the PSU after the fuse on PrintMech PCA.

**3V3 -** Comes from the Power Supply Unit.

**5V -** Comes from the Power Supply Unit.

**VPOWER2 -** Comes from the PSU (42V) after a fuse on the PrintMech PCA.

**VAUX -** Comes from the PSU (12V) after a fuse on the PrintMech.

## Identifying faults from LED status

Use the following procedure to identify faults from the status of the LEDs.

1. If the Printer cannot be turned ON:

| Signal | LED on Interconnect PCA | LED on PrintMech PCA | Power Switch LED | Corrective Action |
|---|---|---|---|---|
| 5Vsb | OFF | ON | Amber | • Check the connection between the PSU and the Interconnect PCA.<br>• If connection OK, replace the Interconnect PCA ⇒ See page 357. |
| 5Vsb | ON | OFF | Amber | • Check the connection between the PSU and the PrintMech PCA.<br>• Make sure that ALL cables between the PSU and PrintMech are not damaged and are connected correctly. |

| Signal | LED on Interconnect PCA | LED on PrintMech PCA | Power Switch LED | Corrective Action |
|---|---|---|---|---|
| 5Vsb | OFF | OFF | Amber or no LED | • Check the connection between the PSU and the PrintMech PCA and Interconnect PCA.<br>• If connection OK, check that power reaches the PSU (check the power outlet).<br>• If power reaches PSU, replace the PSU ⇒ See page 379. |

2. If the Printer starts (after having pressed the ON button on the Front Panel) but the front Panel remains black:

| Signal | LED on Interconnect PCA | LED on PrintMech PCA | Power Switch LED | Corrective Action |
|---|---|---|---|---|
| 5V | OFF | ON | Blue | • Check the connection between the PSU and the Interconnect PCA.<br>• If connection OK, replace the Interconnect PCA ⇒ See page 357. |
| 5V | ON | ON | Blue | • Check the connection between the Front Panel and the Interconnect PCA.<br>• If connection OK, replace the Interconnect PCA ⇒ See page 384 and the Front Panel ⇒ See page 292. |

3. The Printer is up and running, or may have a System Error at the end of the power-up sequence. For the Carriage PCA connection, perform the Scan-Axis Test ⇒ See page 97:

| Signal | LED on Interconnect PCA | LED on PrintMech PCA | Power Switch LED | Corrective Action |
|---|---|---|---|---|
| 5V | OFF | ON | Blue | • Check the connection between the PSU and the Interconnect PCA.<br>• If connection OK, replace the Interconnect PCA ⇒ See page 357. |
| 24V | ON | ON | Blue and Green | • Check the System Error that is produced and run the corresponding Diagnostic Test (either Scan-Axis or Media-Axis Test. |
| 24V | OFF | OFF | Blue and Green | • Check the connection between the PSU and the PrintMech PCA and Interconnect PCA.<br>• If connection OK, run the Electronics Module Test to further diagnose the problem. |

| Signal | LED on Interconnect PCA | LED on PrintMech PCA | Power Switch LED | Corrective Action |
|---|---|---|---|---|
| 24V | OFF | ON | Blue and Green | • Check the connection between the PSU and the Interconnect PCA.<br>• If connection OK, run the Electronics Module Test to further diagnose the problem. |
| 24V | ON | OFF | Blue and Green | • Check the connection between the PSU and the PrintMech PCA.<br>• If connection OK, run the Electronics Module Test to further diagnose the problem. |

4. On the PrintMech PCA, if the 3V3 LED is ON, 5V LED is ON, ERIDANI LED is ON, VAUX LED is ON and the VAN LED is OFF, then try the following:
   - Run the Electronics Module Test to further diagnose the problem.
   - Replace the PrintMech PCA ⇒ See page 384.
5. If the Power Switch LED is Green and the 3V3 LED is ON, 5V LED is ON, ERIDANI LED is ON, VAUX LED is ON, VAN LED is ON and the VPOWER2 LED is OFF, then try the following:
   - Check the connection between the PSU and the PrintMech PCA.
   - Run the Electronics Module Test to further diagnose the problem.
   - Replace the PrintMech PCA ⇒ See page 384.

# How to Interpret the Service Information Pages

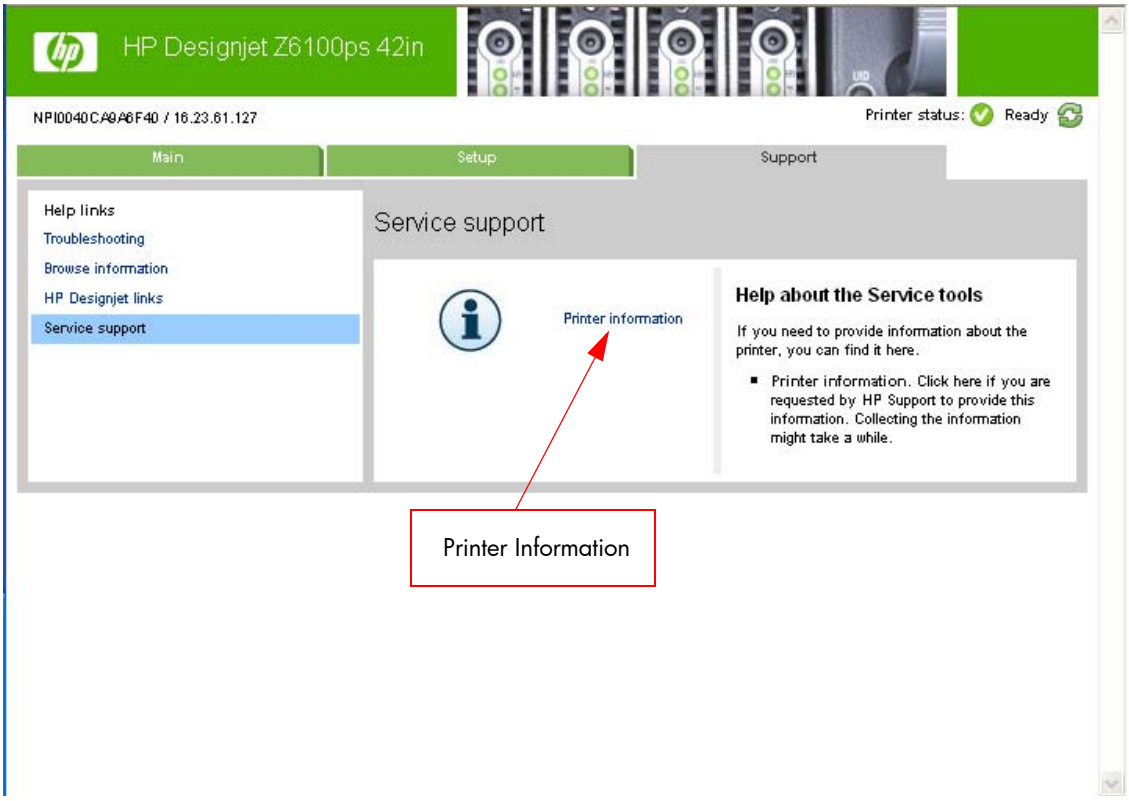
The Service Information Pages contain the following information:

- Current Configuration
- Current Information.
- Usage Information.
- Event Logs.
- Calibration Status.
- Connectivity Configuration
- All Pages.

It is possible to print the Service Information Pages either through the Front Panel or through the Embedded Web Server:

- Front Panel: Setup menu ⇒ Information Menu ⇒ Internal Prints ⇒ Print Service Information.

- Embedded Web Server: Support tab ⇒ Service Support ⇒ Printer Information.


HP Designjet Z6100ps 42in
NPI0040CA9A6F40 / 16.23.61.127
Printer status: Ready
Main
Setup
Support
Help links
Troubleshooting
Browse information
HP Designjet links
Service support
Service support
Printer information
Help about the Service tools
If you need to provide information about the printer, you can find it here.
Printer information. Click here if you are requested by HP Support to provide this information. Collecting the information might take a while.
Printer Information

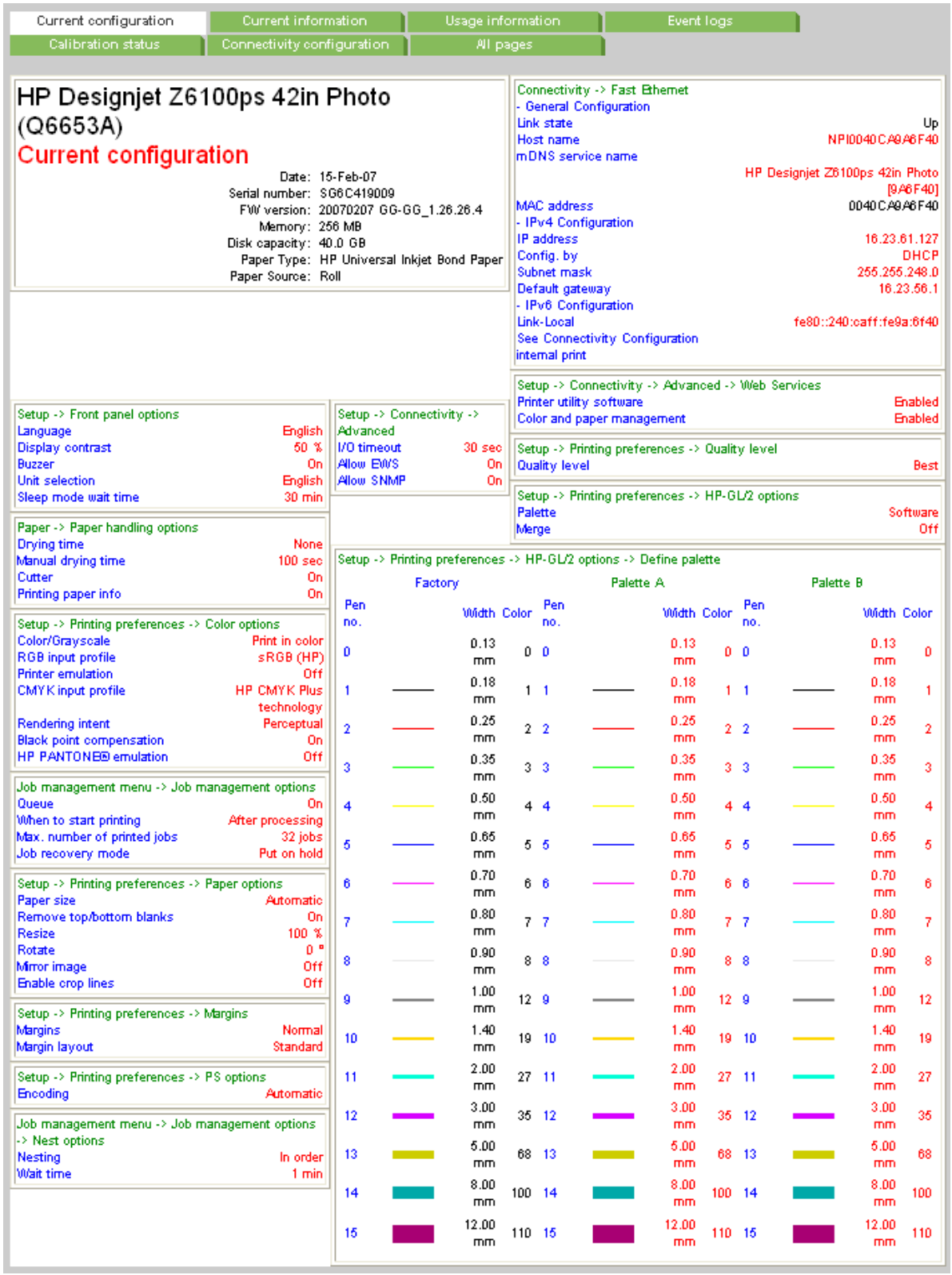
Even if the Printer cannot print, the Information Pages are still accessible through the Embedded Web Server.

## Main Characteristics

- Only available in English (except the current information page).
- From the Front Panel, you can choose to print ALL pages or just select the specific pages that are needed. If ALL pages are printed:
  - Nesting is turned ON automatically (and turned OFF once all the pages have been printed).
  - Nesting cannot be mixed with other jobs in the queue.
- Each page can be printed from the Web browser when using the Embedded Web Server.
- Each page can be sent by e-mail from the Web Browser when using the Embedded Web Server (File ⇒ Send ⇒ Page by E-mail).
- You can see the same information through the Front Panel or the Embedded Web Server.

# Current Configuration

This page contains full details of the current configuration of the Printer.



Current configuration | Current information | Usage information | Event logs
Calibration status | Connectivity configuration | All pages

**HP Designjet Z6100ps 42in Photo (Q6653A)**
**Current configuration**

Date: 15-Feb-07
Serial number: SG6C419009
FW version: 20070207 GG-GG_1.26.26.4
Memory: 256 MB
Disk capacity: 40.0 GB
Paper Type: HP Universal Inkjet Bond Paper
Paper Source: Roll

Connectivity -> Fast Ethernet
- General Configuration
Link state: Up
Host name: NPI0040CA9A6F40
mDNS service name: HP Designjet Z6100ps 42in Photo [9A6F40]
MAC address: 0040CA9A6F40
- IPv4 Configuration
IP address: 16.23.61.127
Config. by: DHCP
Subnet mask: 255.255.248.0
Default gateway: 16.23.56.1
- IPv6 Configuration
Link-Local: fe80::240:caff:fe9a:6f40
See Connectivity Configuration
internal print

Setup -> Front panel options
Language: English
Display contrast: 50 %
Buzzer: On
Unit selection: English
Sleep mode wait time: 30 min

Setup -> Connectivity -> Advanced
I/O timeout: 30 sec
Allow EWS: On
Allow SNMP: On

Setup -> Connectivity -> Advanced -> Web Services
Printer utility software: Enabled
Color and paper management: Enabled

Setup -> Printing preferences -> Quality level
Quality level: Best

Setup -> Printing preferences -> HP-GL/2 options
Palette: Software
Merge: Off

Paper -> Paper handling options
Drying time: None
Manual drying time: 100 sec
Cutter: On
Printing paper info: On

Setup -> Printing preferences -> Color options
Color/Grayscale: Print in color
RGB input profile: sRGB (HP)
Printer emulation: Off
CMYK input profile: HP CMYK Plus technology
Rendering intent: Perceptual
Black point compensation: On
HP PANTONE® emulation: Off

Job management menu -> Job management options
Queue: On
When to start printing: After processing
Max. number of printed jobs: 32 jobs
Job recovery mode: Put on hold

Setup -> Printing preferences -> Paper options
Paper size: Automatic
Remove top/bottom blanks: On
Resize: 100 %
Rotate: 0 °
Mirror image: Off
Enable crop lines: Off

Setup -> Printing preferences -> Margins
Margins: Normal
Margin layout: Standard

Setup -> Printing preferences -> PS options
Encoding: Automatic

Job management menu -> Job management options -> Nest options
Nesting: In order
Wait time: 1 min

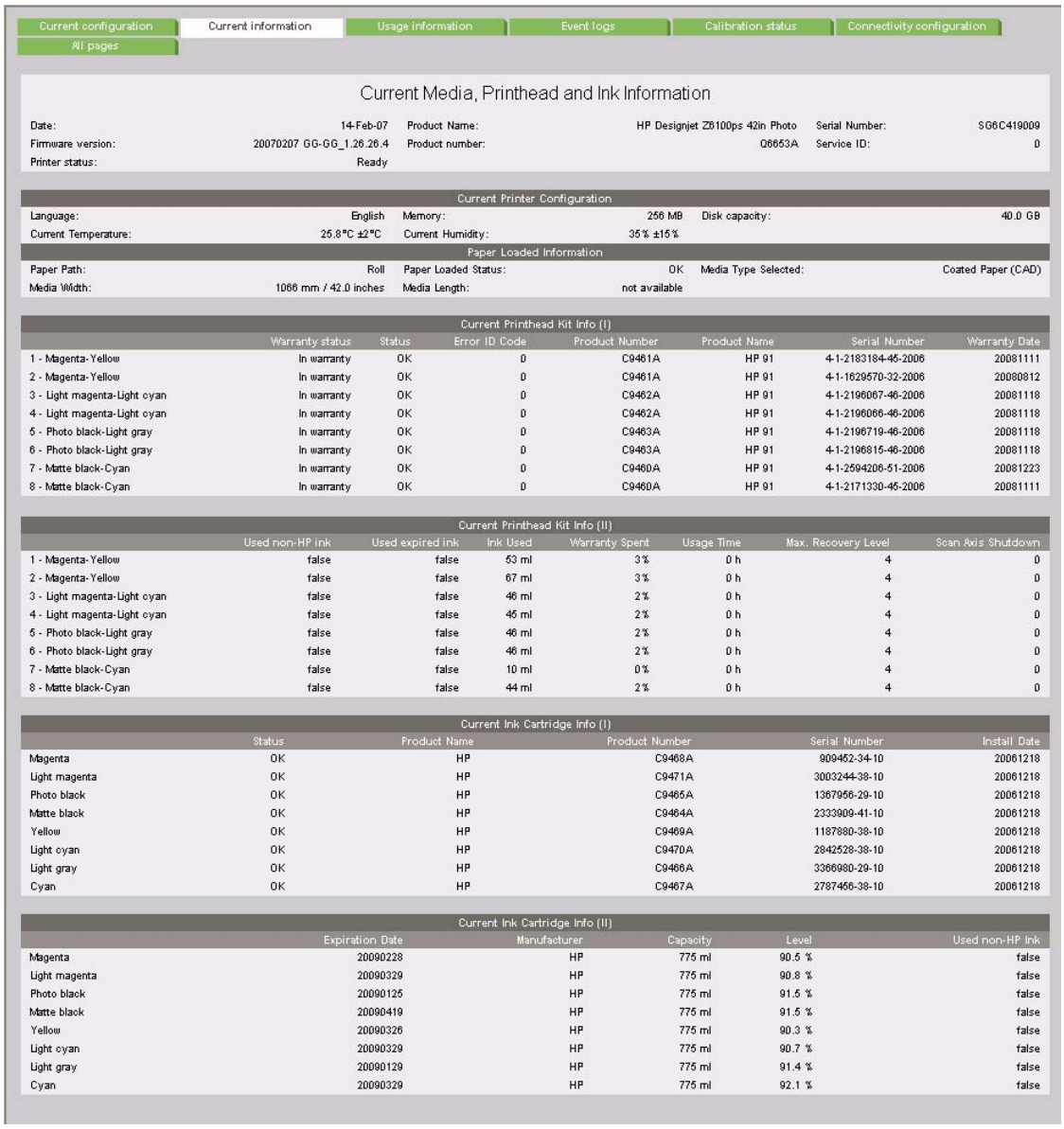
Setup -> Printing preferences -> HP-GL/2 options -> Define palette

| Factory | | | | Palette A | | | | Palette B | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pen no. | Width | Color | Pen no. | Pen no. | Width | Color | Pen no. | Pen no. | Width | Color | Pen no. |
| 0 | 0.13 mm | 0 | 0 | 0 | 0.13 mm | 0 | 0 | 0 | 0.13 mm | 0 | 0 |
| 1 | 0.18 mm | 1 | 1 | 1 | 0.18 mm | 1 | 1 | 1 | 0.18 mm | 1 | 1 |
| 2 | 0.25 mm | 2 | 2 | 2 | 0.25 mm | 2 | 2 | 2 | 0.25 mm | 2 | 2 |
| 3 | 0.35 mm | 3 | 3 | 3 | 0.35 mm | 3 | 3 | 3 | 0.35 mm | 3 | 3 |
| 4 | 0.50 mm | 4 | 4 | 4 | 0.50 mm | 4 | 4 | 4 | 0.50 mm | 4 | 4 |
| 5 | 0.65 mm | 5 | 5 | 5 | 0.65 mm | 5 | 5 | 5 | 0.65 mm | 5 | 5 |
| 6 | 0.70 mm | 6 | 6 | 6 | 0.70 mm | 6 | 6 | 6 | 0.70 mm | 6 | 6 |
| 7 | 0.80 mm | 7 | 7 | 7 | 0.80 mm | 7 | 7 | 7 | 0.80 mm | 7 | 7 |
| 8 | 0.90 mm | 8 | 8 | 8 | 0.90 mm | 8 | 8 | 8 | 0.90 mm | 8 | 8 |
| 9 | 1.00 mm | 12 | 9 | 9 | 1.00 mm | 12 | 9 | 9 | 1.00 mm | 12 | 9 |
| 10 | 1.40 mm | 19 | 10 | 10 | 1.40 mm | 19 | 10 | 10 | 1.40 mm | 19 | 10 |
| 11 | 2.00 mm | 27 | 11 | 11 | 2.00 mm | 27 | 11 | 11 | 2.00 mm | 27 | 11 |
| 12 | 3.00 mm | 35 | 12 | 12 | 3.00 mm | 35 | 12 | 12 | 3.00 mm | 35 | 12 |
| 13 | 5.00 mm | 68 | 13 | 13 | 5.00 mm | 68 | 13 | 13 | 5.00 mm | 68 | 13 |
| 14 | 8.00 mm | 100 | 14 | 14 | 8.00 mm | 100 | 14 | 14 | 8.00 mm | 100 | 14 |
| 15 | 12.00 mm | 110 | 15 | 15 | 12.00 mm | 110 | 15 | 15 | 12.00 mm | 110 | 15 |

# Current Media, Printhead and Ink Information

This page contains the following information:

- Current Printer Configuration.
- Paper Loaded Information.
- Current Printhead Kit Information.
- Current Ink cartridge Information I and II.



Current configuration | Current information | Usage information | Event logs | Calibration status | Connectivity configuration | All pages

## Current Media, Printhead and Ink Information

| | | | | | |
|---|---|---|---|---|---|
| Date: | 14-Feb-07 | Product Name: | HP Designjet Z6100ps 42in Photo | Serial Number: | SG6C419009 |
| Firmware version: | 20070207 GG-GG_1.26.26.4 | Product number: | Q6653A | Service ID: | 0 |
| Printer status: | Ready | | | | |

**Current Printer Configuration**

| | | | | | |
|---|---|---|---|---|---|
| Language: | English | Memory: | 256 MB | Disk capacity: | 40.0 GB |
| Current Temperature: | 25.8°C ±2°C | Current Humidity: | 35% ±15% | | |

**Paper Loaded Information**

| | | | | | |
|---|---|---|---|---|---|
| Paper Path: | Roll | Paper Loaded Status: | OK | Media Type Selected: | Coated Paper (CAD) |
| Media Width: | 1066 mm / 42.0 inches | Media Length: | not available | | |

**Current Printhead Kit Info (I)**

| | Warranty status | Status | Error ID Code | Product Number | Product Name | Serial Number | Warranty Date |
|---|---|---|---|---|---|---|---|
| 1 - Magenta-Yellow | In warranty | OK | 0 | C9461A | HP 91 | 4-1-2183184-46-2006 | 20081111 |
| 2 - Magenta-Yellow | In warranty | OK | 0 | C9461A | HP 91 | 4-1-1629570-32-2006 | 20080812 |
| 3 - Light magenta-Light cyan | In warranty | OK | 0 | C9462A | HP 91 | 4-1-2196067-46-2006 | 20081118 |
| 4 - Light magenta-Light cyan | In warranty | OK | 0 | C9462A | HP 91 | 4-1-2196066-46-2006 | 20081118 |
| 5 - Photo black-Light gray | In warranty | OK | 0 | C9463A | HP 91 | 4-1-2196719-46-2006 | 20081118 |
| 6 - Photo black-Light gray | In warranty | OK | 0 | C9463A | HP 91 | 4-1-2196815-46-2006 | 20081118 |
| 7 - Matte black-Cyan | In warranty | OK | 0 | C9460A | HP 91 | 4-1-2594206-51-2006 | 20081223 |
| 8 - Matte black-Cyan | In warranty | OK | 0 | C9460A | HP 91 | 4-1-2171330-45-2006 | 20081111 |

**Current Printhead Kit Info (II)**

| | Used non-HP ink | Used expired ink | Ink Used | Warranty Spent | Usage Time | Max. Recovery Level | Scan Axis Shutdown |
|---|---|---|---|---|---|---|---|
| 1 - Magenta-Yellow | false | false | 53 ml | 3% | 0 h | 4 | 0 |
| 2 - Magenta-Yellow | false | false | 67 ml | 3% | 0 h | 4 | 0 |
| 3 - Light magenta-Light cyan | false | false | 46 ml | 2% | 0 h | 4 | 0 |
| 4 - Light magenta-Light cyan | false | false | 45 ml | 2% | 0 h | 4 | 0 |
| 5 - Photo black-Light gray | false | false | 46 ml | 2% | 0 h | 4 | 0 |
| 6 - Photo black-Light gray | false | false | 46 ml | 2% | 0 h | 4 | 0 |
| 7 - Matte black-Cyan | false | false | 10 ml | 0% | 0 h | 4 | 0 |
| 8 - Matte black-Cyan | false | false | 44 ml | 2% | 0 h | 4 | 0 |

**Current Ink Cartridge Info (I)**

| | Status | Product Name | Product Number | Serial Number | Install Date |
|---|---|---|---|---|---|
| Magenta | OK | HP | C9468A | 909452-34-10 | 20061218 |
| Light magenta | OK | HP | C9471A | 3003244-38-10 | 20061218 |
| Photo black | OK | HP | C9465A | 1367956-29-10 | 20061218 |
| Matte black | OK | HP | C9464A | 2333909-41-10 | 20061218 |
| Yellow | OK | HP | C9469A | 1187880-38-10 | 20061218 |
| Light cyan | OK | HP | C9470A | 2842528-38-10 | 20061218 |
| Light gray | OK | HP | C9466A | 3366980-29-10 | 20061218 |
| Cyan | OK | HP | C9467A | 2787466-38-10 | 20061218 |

**Current Ink Cartridge Info (II)**

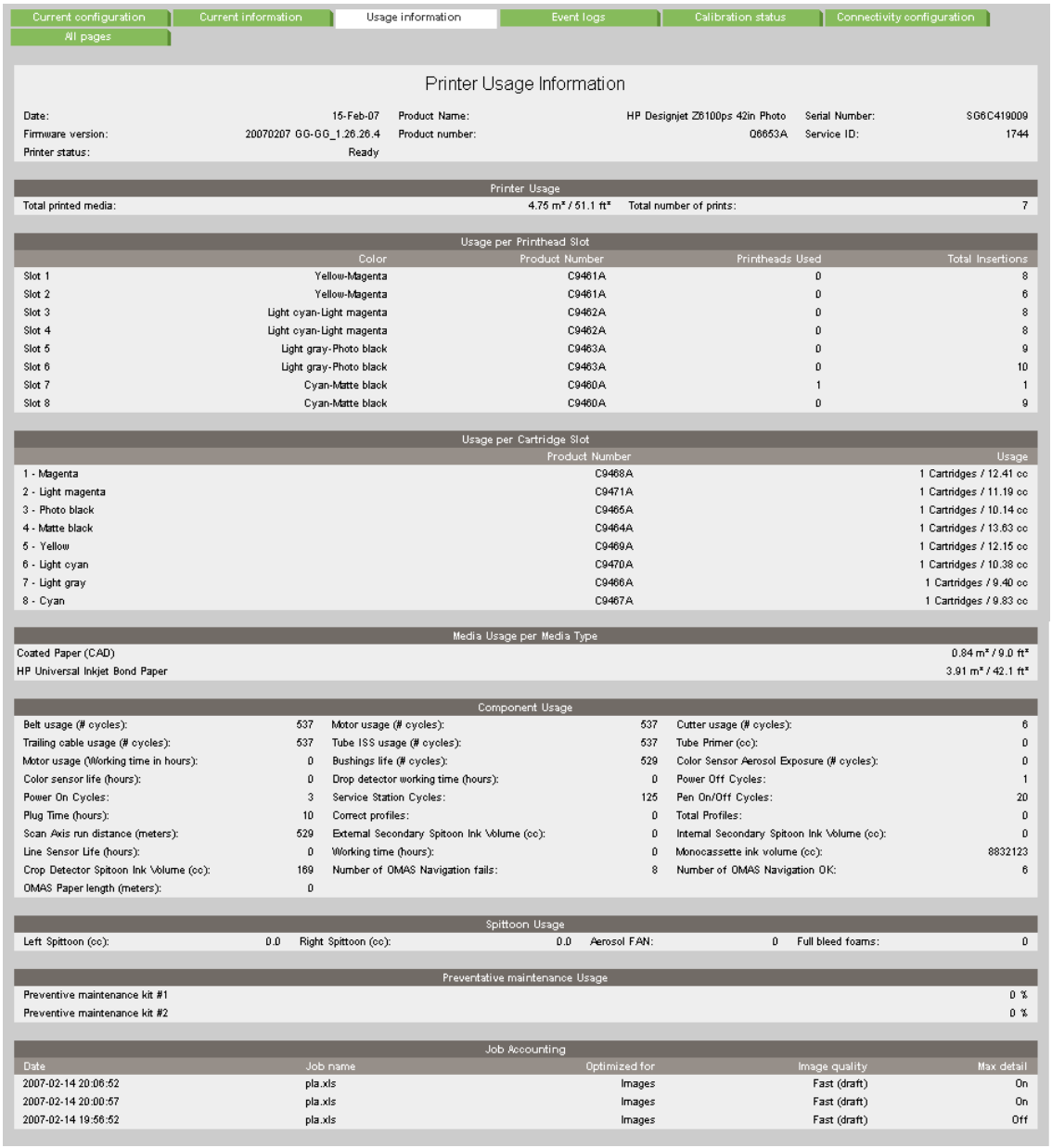
| | Expiration Date | Manufacturer | Capacity | Level | Used non-HP Ink |
|---|---|---|---|---|---|
| Magenta | 20090228 | HP | 775 ml | 90.5 % | false |
| Light magenta | 20090329 | HP | 775 ml | 90.8 % | false |
| Photo black | 20090125 | HP | 775 ml | 91.5 % | false |
| Matte black | 20090419 | HP | 775 ml | 91.5 % | false |
| Yellow | 20090326 | HP | 775 ml | 90.3 % | false |
| Light cyan | 20090329 | HP | 775 ml | 90.7 % | false |
| Light gray | 20090129 | HP | 775 ml | 91.4 % | false |
| Cyan | 20090329 | HP | 775 ml | 92.1 % | false |

The first two lines are available at the beginning of each Service Information Page and contains standard information (like Service ID, Firmware version).

# Printer Usage Information

This page contains the following information:

- Printer Usage.
- Usage per Printhead Slot.
- Usage per Cartridge Slot.
- Media Usage per Media Type.
- Component Usage.
- Spittoon Usage.
- Preventive Maintenance Usage.



Current configuration | Current information | Usage information | Event logs | Calibration status | Connectivity configuration | All pages

## Printer Usage Information

| | | | | | |
|---|---|---|---|---|---|
| Date: | 15-Feb-07 | Product Name: | HP Designjet Z6100ps 42in Photo | Serial Number: | SG6C419009 |
| Firmware version: | 20070207 GG-GG_1.26.26.4 | Product number: | Q6653A | Service ID: | 1744 |
| Printer status: | Ready | | | | |

**Printer Usage**

| | | | |
|---|---|---|---|
| Total printed media: | 4.75 m² / 51.1 ft² | Total number of prints: | 7 |

**Usage per Printhead Slot**

| | Color | Product Number | Printheads Used | Total Insertions |
|---|---|---|---|---|
| Slot 1 | Yellow-Magenta | C9461A | 0 | 8 |
| Slot 2 | Yellow-Magenta | C9461A | 0 | 6 |
| Slot 3 | Light cyan-Light magenta | C9462A | 0 | 8 |
| Slot 4 | Light cyan-Light magenta | C9462A | 0 | 8 |
| Slot 5 | Light gray-Photo black | C9463A | 0 | 9 |
| Slot 6 | Light gray-Photo black | C9463A | 0 | 10 |
| Slot 7 | Cyan-Matte black | C9460A | 1 | 1 |
| Slot 8 | Cyan-Matte black | C9460A | 0 | 9 |

**Usage per Cartridge Slot**

| | Product Number | Usage |
|---|---|---|
| 1 - Magenta | C9468A | 1 Cartridges / 12.41 cc |
| 2 - Light magenta | C9471A | 1 Cartridges / 11.19 cc |
| 3 - Photo black | C9465A | 1 Cartridges / 10.14 cc |
| 4 - Matte black | C9464A | 1 Cartridges / 13.63 cc |
| 5 - Yellow | C9469A | 1 Cartridges / 12.15 cc |
| 6 - Light cyan | C9470A | 1 Cartridges / 10.38 cc |
| 7 - Light gray | C9466A | 1 Cartridges / 9.40 cc |
| 8 - Cyan | C9467A | 1 Cartridges / 9.83 cc |

**Media Usage per Media Type**

| | |
|---|---|
| Coated Paper (CAD) | 0.84 m² / 9.0 ft² |
| HP Universal Inkjet Bond Paper | 3.91 m² / 42.1 ft² |

**Component Usage**

| | | | | | |
|---|---|---|---|---|---|
| Belt usage (# cycles): | 537 | Motor usage (# cycles): | 537 | Cutter usage (# cycles): | 6 |
| Trailing cable usage (# cycles): | 537 | Tube ISS usage (# cycles): | 537 | Tube Primer (cc): | 0 |
| Motor usage (Working time in hours): | 0 | Bushings life (# cycles): | 529 | Color Sensor Aerosol Exposure (# cycles): | 0 |
| Color sensor life (hours): | 0 | Drop detector working time (hours): | 0 | Power Off Cycles: | 1 |
| Power On Cycles: | 3 | Service Station Cycles: | 125 | Pen On/Off Cycles: | 20 |
| Plug Time (hours): | 10 | Correct profiles: | 0 | Total Profiles: | 0 |
| Scan Axis run distance (meters): | 529 | External Secondary Spitoon Ink Volume (cc): | 0 | Internal Secondary Spitoon Ink Volume (cc): | 0 |
| Line Sensor Life (hours): | 0 | Working time (hours): | 0 | Monocassette ink volume (cc): | 8832123 |
| Crop Detector Spitoon Ink Volume (cc): | 169 | Number of OMAS Navigation fails: | 8 | Number of OMAS Navigation OK: | 6 |
| OMAS Paper length (meters): | 0 | | | | |

**Spittoon Usage**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Left Spittoon (cc): | 0.0 | Right Spittoon (cc): | 0.0 | Aerosol FAN: | 0 | Full bleed foams: | 0 |

**Preventative maintenance Usage**

| | |
|---|---|
| Preventive maintenance kit #1 | 0 % |
| Preventive maintenance kit #2 | 0 % |

**Job Accounting**

| Date | Job name | Optimized for | Image quality | Max detail |
|---|---|---|---|---|
| 2007-02-14 20:06:52 | pla.xls | Images | Fast (draft) | On |
| 2007-02-14 20:00:57 | pla.xls | Images | Fast (draft) | On |
| 2007-02-14 19:56:52 | pla.xls | Images | Fast (draft) | Off |

# Media Used Sections

- Total media used in the Printer.

| Printer Usage | | | |
|---|---|---|---|
| Total printed media: | 4.75 m² / 51.1 ft² | Total number of prints: | 7 |

- Media used for each media type.

| Media Usage per Media Type | |
|---|---|
| Coated Paper (CAD) | 0.84 m² / 9.0 ft² |
| HP Universal Inkjet Bond Paper | 3.91 m² / 42.1 ft² |

It is possible that the sum of the media used for each media type is lower that the total amount of media used in the Printer. This is because only the total media used in the Printer is saved in the backup EEROM which is located in the ISS PCA. When the Hard Disk Drive is replaced, the total media used per media type is reset to zero (0), but the total media used is recovered from the backup EEROM.

## Printhead Section

The Printheads section displays the Printhead usage per slot.

- **Total Insertions**: This is linked with the crane of the Ink Supply Tubes. When the Ink Supply Tubes are replaced, the total insertions amount will be reset to zero (0).

| Usage per Printhead Slot | | | | |
|---|---|---|---|---|
| | Color | Product Number | Printheads Used | Total Insertions |
| Slot 1 | Yellow-Magenta | C9461A | 0 | 8 |
| Slot 2 | Yellow-Magenta | C9461A | 0 | 6 |
| Slot 3 | Light cyan-Light magenta | C9462A | 0 | 8 |
| Slot 4 | Light cyan-Light magenta | C9462A | 0 | 8 |
| Slot 5 | Light gray-Photo black | C9463A | 0 | 9 |
| Slot 6 | Light gray-Photo black | C9463A | 0 | 10 |
| Slot 7 | Cyan-Matte black | C9460A | 1 | 1 |
| Slot 8 | Cyan-Matte black | C9460A | 0 | 9 |

## Cartridge Section

The Ink Cartridges section displays the ink usage per cartridge.

| Usage per Cartridge Slot | | |
|---|---|---|
| | Product Number | Usage |
| 1 - Magenta | C9468A | 1 Cartridges / 12.41 cc |
| 2 - Light magenta | C9471A | 1 Cartridges / 11.19 cc |
| 3 - Photo black | C9465A | 1 Cartridges / 10.14 cc |
| 4 - Matte black | C9464A | 1 Cartridges / 13.63 cc |
| 5 - Yellow | C9469A | 1 Cartridges / 12.15 cc |
| 6 - Light cyan | C9470A | 1 Cartridges / 10.38 cc |
| 7 - Light gray | C9466A | 1 Cartridges / 9.40 cc |
| 8 - Cyan | C9467A | 1 Cartridges / 9.83 cc |

## Preventive Maintenance Section

Once the value reaches 100%, the corresponding Preventive Maintenance Kit should be used. For further details, refer to Chapter 9 - Preventive Maintenance.

| Preventative maintenance Usage | |
|---|---|
| Preventive maintenance kit #1 | 0 % |
| Preventive maintenance kit #2 | 0 % |

## Component Usage

One cycle is counted when the Carriage makes one movement to the left of the Printer and then returns to the right.

| Component Usage | | | | | |
|---|---|---|---|---|---|
| Belt usage (# cycles): | 537 | Motor usage (# cycles): | 537 | Cutter usage (# cycles): | 6 |
| Trailing cable usage (# cycles): | 537 | Tube ISS usage (# cycles): | 537 | Tube Primer (cc): | 0 |
| Motor usage (Working time in hours): | 0 | Bushings life (# cycles): | 529 | Color Sensor Aerosol Exposure (# cycles): | 0 |
| Color sensor life (hours): | 0 | Drop detector working time (hours): | 0 | Power Off Cycles: | 1 |
| Power On Cycles: | 3 | Service Station Cycles: | 125 | Pen On/Off Cycles: | 20 |
| Plug Time (hours): | 10 | Correct profiles: | 0 | Total Profiles: | 0 |
| Scan Axis run distance (meters): | 529 | External Secondary Spitoon Ink Volume (cc): | 0 | Internal Secondary Spitoon Ink Volume (cc): | 0 |
| Line Sensor Life (hours): | 0 | Working time (hours): | 0 | Monocassette ink volume (cc): | 8832123 |
| Crop Detector Spitoon Ink Volume (cc): | 169 | Number of OMAS Navigation fails: | 8 | Number of OMAS Navigation OK: | 6 |
| OMAS Paper length (meters): | 0 | | | | |

To find the total of Monochrome ink consumed in cc use the the formula ^0.61. Example: For a value marked as 11504, use the formula ^0.61 to convert it to cc=300cc.

## Spittoon Section

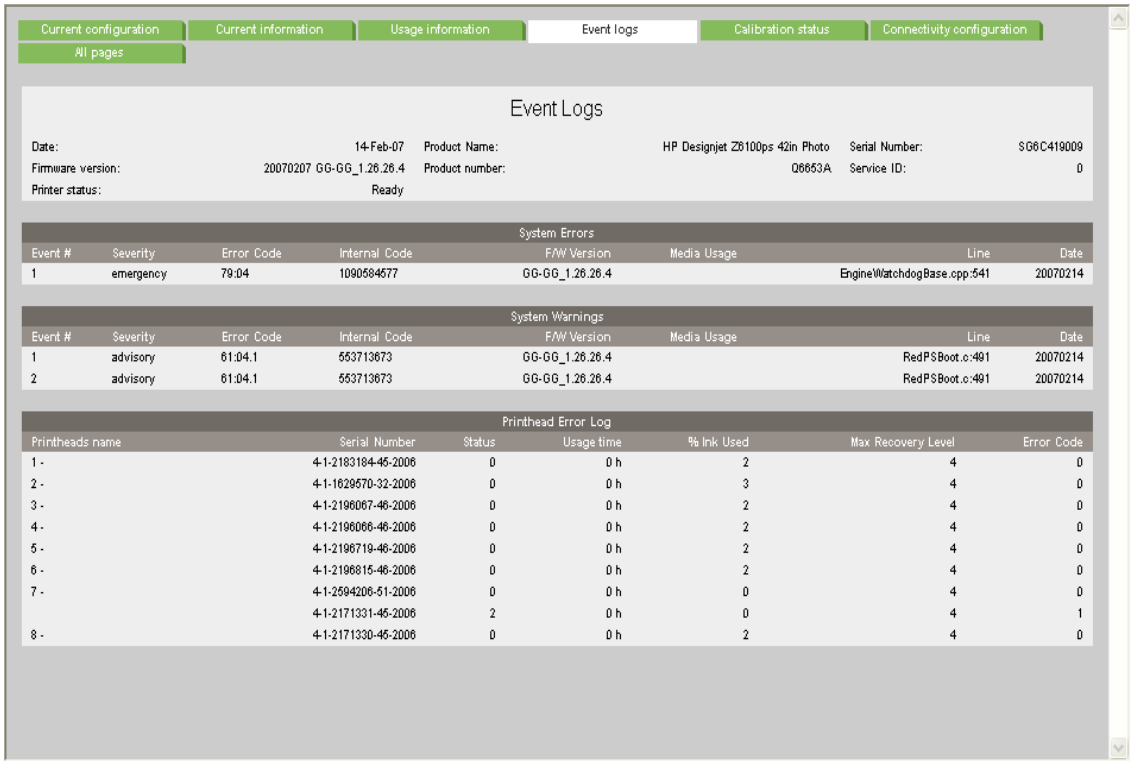
This section contains information on the different Spittoons located in the Printer.

| Spittoon Usage | | | | | | | |
|---|---|---|---|---|---|---|---|
| Left Spittoon (cc): | 0.0 | Right Spittoon (cc): | 0.0 | Aerosol FAN: | 0 | Full bleed foams: | 0 |

# Event Logs

This page contains the following information:

- Last 20 System Error Codes (which prevented the Printer from booting).
- Last 20 System Warnings (which did not prevent the Printer from booting, but which required the user to acknowledge the problem).
- Printhead Error log.


Current configuration
Current information
Usage information
Event logs
Calibration status
Connectivity configuration
All pages
Event Logs
Date: 14-Feb-07
Product Name: HP Designjet Z6100ps 42in Photo
Serial Number: SG6C419009
Firmware version: 20070207 GG-GG_1.26.26.4
Product number: Q6653A
Service ID: 0
Printer status: Ready
System Errors
Event # Severity Error Code Internal Code F/W Version Media Usage Line Date
1 emergency 79:04 1090584577 GG-GG_1.26.26.4 EngineWatchdogBase.cpp:541 20070214
System Warnings
Event # Severity Error Code Internal Code F/W Version Media Usage Line Date
1 advisory 61:04.1 553713673 GG-GG_1.26.26.4 RedPSBoot.c:491 20070214
2 advisory 61:04.1 553713673 GG-GG_1.26.26.4 RedPSBoot.c:491 20070214
Printhead Error Log
Printheads name Serial Number Status Usage time % Ink Used Max Recovery Level Error Code
1 - 4-1-2183184-46-2006 0 0 h 2 4 0
2 - 4-1-1629570-32-2006 0 0 h 3 4 0
3 - 4-1-2196067-46-2006 0 0 h 2 4 0
4 - 4-1-2196066-46-2006 0 0 h 2 4 0
5 - 4-1-2196719-46-2006 0 0 h 2 4 0
6 - 4-1-2196815-46-2006 0 0 h 2 4 0
7 - 4-1-2594206-51-2006 0 0 h 0 4 0
4-1-2171331-46-2006 2 0 h 0 4 1
8 - 4-1-2171330-46-2006 0 0 h 2 4 0

### System/Warning Error

- The **Line** and **Internal Code** do not provide much information, but are useful in the case of escalating a problem to the division (different internal error codes can point to the same error code (e.g. 01.10:10)).
- **Media Usage** (in square meters) and **Date** (from the Printer's Internal Clock (RTC)) help you to understand if the Printer has been used (media usage) and how much time has passed since the last error.

### Printhead Error Log

- Printheads ago: History of the last three Printheads used ('0' represents the current Printhead used).
- **Status**:'0' = Working,'1' = No Pen Detected,'2' = Replace,'4' = Reseat,'8' = Remove.
- **% Ink Used**: Percentage of the Warranty life (1000cc).
- **Error Code**: Specific error code generated by the Printer when the Printhead has been replaced.
- **Max Recovery**:
  - 0: No manual Printhead recovery has been performed on the Printhead.
  - 1 or higher: At least one Printhead recovery has been performed.

Printhead Error Log

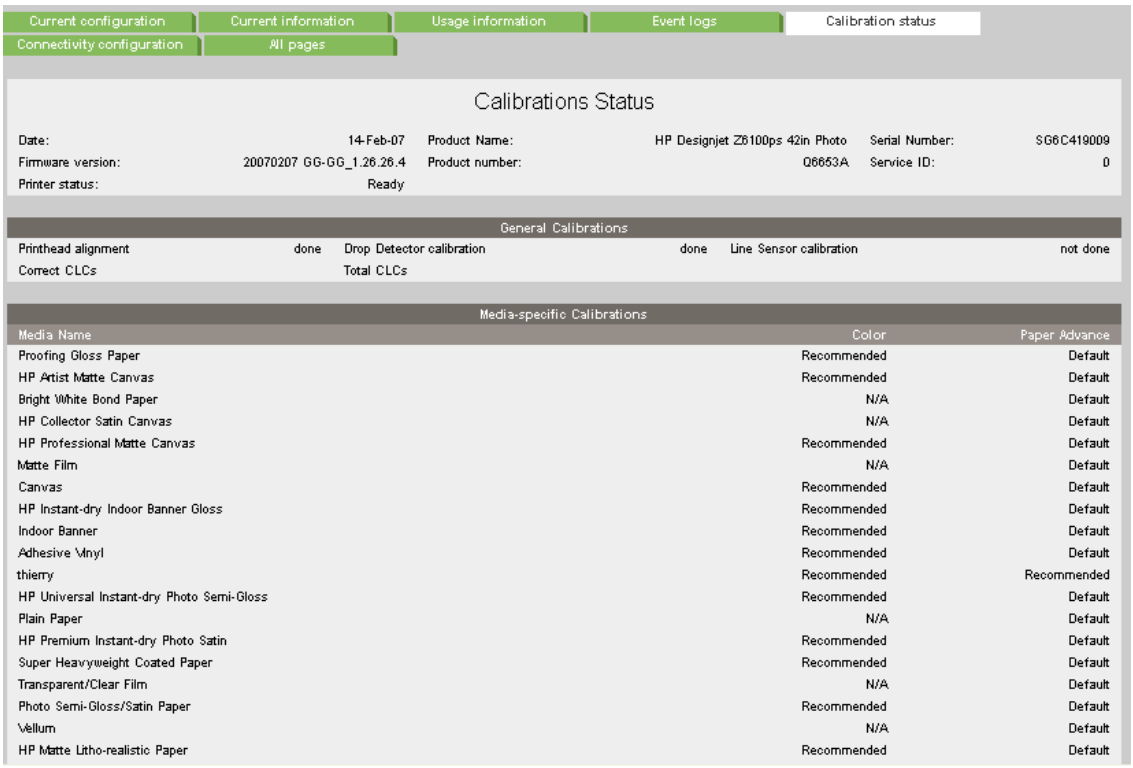
| Printheads name | Serial Number | Status | Usage time | % Ink Used | Max Recovery Level | Error Code |
|---|---|---|---|---|---|---|
| 1 - | 4-1-2183184-45-2006 | 0 | 0 h | 3 | 4 | 0 |
| 2 - | 4-1-1629570-32-2006 | 0 | 0 h | 3 | 4 | 0 |
| 3 - | 4-1-2196067-46-2006 | 0 | 0 h | 2 | 4 | 0 |
| 4 - | 4-1-2196066-46-2006 | 0 | 0 h | 2 | 4 | 0 |
| 5 - | 4-1-2196719-46-2006 | 0 | 0 h | 2 | 4 | 0 |
| 6 - | 4-1-2196815-46-2006 | 0 | 0 h | 2 | 4 | 0 |
| 7 - | 4-1-2594206-51-2006 | 0 | 0 h | 0 | 4 | 0 |
| | 4-1-2171331-45-2006 | 2 | 0 h | 0 | 4 | 1 |
| 8 - | 4-1-2171330-45-2006 | 0 | 0 h | 2 | 4 | 0 |

## Calibrations Status

This page contains the following information:

- General Calibrations (performed by Service Engineers).

- Media Specific Calibrations (performed by the User).



Current configuration | Current information | Usage information | Event logs | Calibration status

Connectivity configuration | All pages

Calibrations Status

| | | | | | |
|---|---|---|---|---|---|
| Date: | 14-Feb-07 | Product Name: | HP Designjet Z6100ps 42in Photo | Serial Number: | SG6C419009 |
| Firmware version: | 20070207 GG-GG_1.26.26.4 | Product number: | Q6653A | Service ID: | 0 |
| Printer status: | Ready | | | | |

General Calibrations

| | | | | | |
|---|---|---|---|---|---|
| Printhead alignment | done | Drop Detector calibration | done | Line Sensor calibration | not done |
| Correct CLCs | | Total CLCs | | | |

Media-specific Calibrations

| Media Name | Color | Paper Advance |
|---|---|---|
| Proofing Gloss Paper | Recommended | Default |
| HP Artist Matte Canvas | Recommended | Default |
| Bright White Bond Paper | N/A | Default |
| HP Collector Satin Canvas | N/A | Default |
| HP Professional Matte Canvas | Recommended | Default |
| Matte Film | N/A | Default |
| Canvas | Recommended | Default |
| HP Instant-dry Indoor Banner Gloss | Recommended | Default |
| Indoor Banner | Recommended | Default |
| Adhesive Vinyl | Recommended | Default |
| thierry | Recommended | Recommended |
| HP Universal Instant-dry Photo Semi-Gloss | Recommended | Default |
| Plain Paper | N/A | Default |
| HP Premium Instant-dry Photo Satin | Recommended | Default |
| Super Heavyweight Coated Paper | Recommended | Default |
| Transparent/Clear Film | N/A | Default |
| Photo Semi-Gloss/Satin Paper | Recommended | Default |
| Vellum | N/A | Default |
| HP Matte Litho-realistic Paper | Recommended | Default |

## General Calibrations

- **Printhead Alignment** relates to the Printhead Alignment which changes to 'pending' when a Printhead is replaced and the Printhead Alignment has not been performed.

**NOTE:** When a component is replaced, the corresponding calibration is NOT automatically set to 'NOT DONE'. This is because the Printer does not know that there is a new part installed.

- **Drop Detector** relates to the Drop Detector or Service Station calibration.
- **Line Sensor** relates to the Line Sensor Calibration.

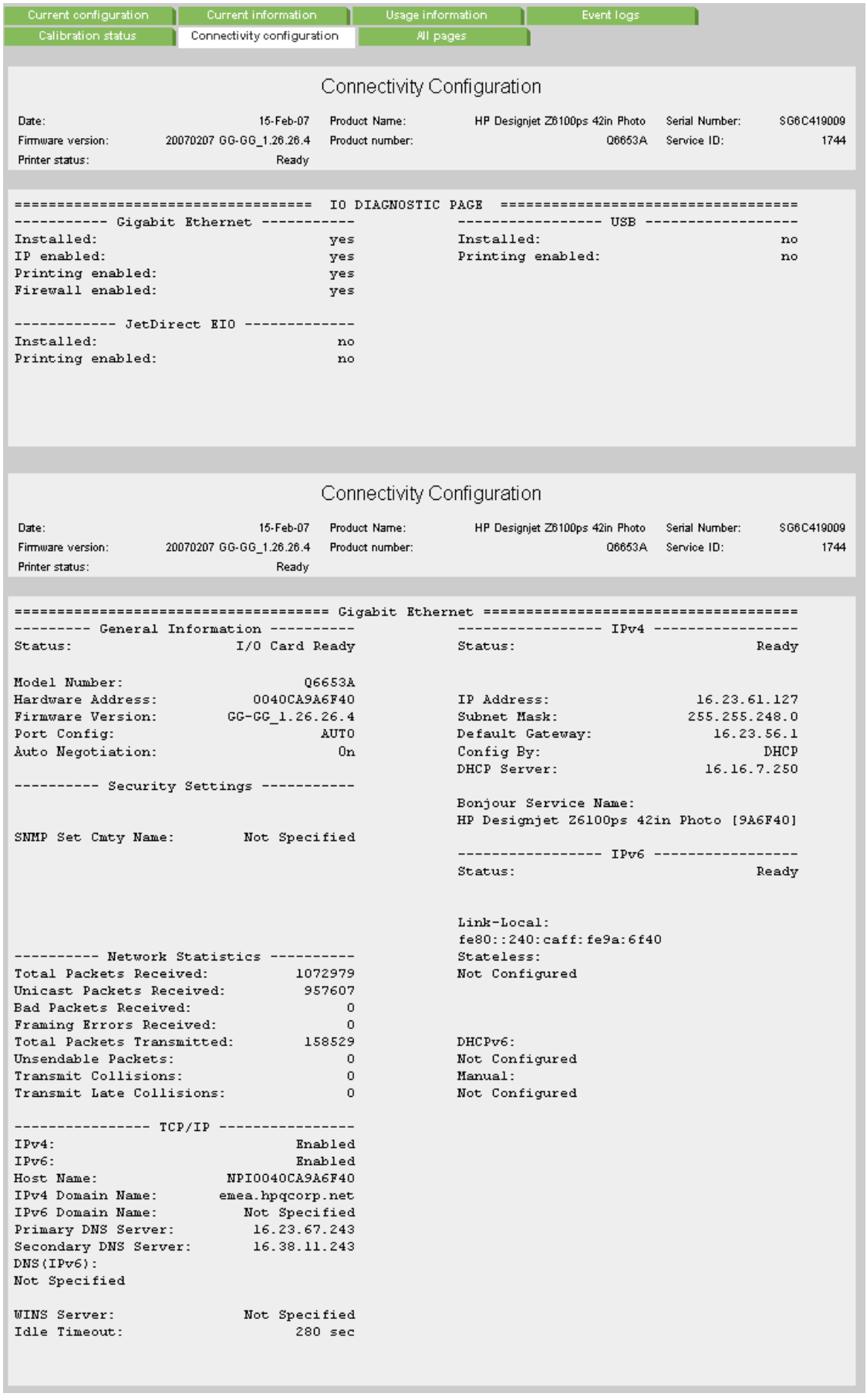
## Media Specific Calibrations

This section shows the following for each type of media:

- Media Name.
- Color.
- Paper Advance.

# Connectivity Configuration

This page contains full details of the current configuration of the Printer.



Current configuration | Current information | Usage information | Event logs
Calibration status | Connectivity configuration | All pages

Connectivity Configuration

| | | | | | |
|---|---|---|---|---|---|
| Date: | 15-Feb-07 | Product Name: | HP Designjet Z6100ps 42in Photo | Serial Number: | SG6C419009 |
| Firmware version: | 20070207 GG-GG_1.26.26.4 | Product number: | Q6653A | Service ID: | 1744 |
| Printer status: | Ready | | | | |

```
==================================  IO DIAGNOSTIC PAGE  ==================================
----------- Gigabit Ethernet -----------            ----------------- USB ------------------
Installed:                          yes             Installed:                          no
IP enabled:                         yes             Printing enabled:                   no
Printing enabled:                   yes
Firewall enabled:                   yes

------------ JetDirect EIO -------------
Installed:                           no
Printing enabled:                    no
```

Connectivity Configuration

| | | | | | |
|---|---|---|---|---|---|
| Date: | 15-Feb-07 | Product Name: | HP Designjet Z6100ps 42in Photo | Serial Number: | SG6C419009 |
| Firmware version: | 20070207 GG-GG_1.26.26.4 | Product number: | Q6653A | Service ID: | 1744 |
| Printer status: | Ready | | | | |

```
==================================== Gigabit Ethernet ====================================
--------- General Information ----------            ----------------- IPv4 -----------------
Status:                    I/O Card Ready           Status:                           Ready

Model Number:                      Q6653A
Hardware Address:            0040CA9A6F40           IP Address:                16.23.61.127
Firmware Version:         GG-GG_1.26.26.4           Subnet Mask:              255.255.248.0
Port Config:                         AUTO           Default Gateway:             16.23.56.1
Auto Negotiation:                      On           Config By:                         DHCP
                                                    DHCP Server:               16.16.7.250
---------- Security Settings -----------
                                                    Bonjour Service Name:
                                                    HP Designjet Z6100ps 42in Photo [9A6F40]
SNMP Set Cmty Name:          Not Specified
                                                    ----------------- IPv6 -----------------
                                                    Status:                           Ready


                                                    Link-Local:
                                                    fe80::240:caff:fe9a:6f40
---------- Network Statistics ----------            Stateless:
Total Packets Received:           1072979           Not Configured
Unicast Packets Received:          957607
Bad Packets Received:                   0
Framing Errors Received:                0
Total Packets Transmitted:         158529           DHCPv6:
Unsendable Packets:                     0           Not Configured
Transmit Collisions:                    0           Manual:
Transmit Late Collisions:               0           Not Configured

---------------- TCP/IP ----------------
IPv4:                              Enabled
IPv6:                              Enabled
Host Name:                 NPI0040CA9A6F40
IPv4 Domain Name:          emea.hpqcorp.net
IPv6 Domain Name:            Not Specified
Primary DNS Server:           16.23.67.243
Secondary DNS Server:         16.38.11.243
DNS(IPv6):
Not Specified

WINS Server:                 Not Specified
Idle Timeout:                      280 sec
```

# When the main window is open and the printer is printing (safety compliance)

We describe the details of the behavior of the printer when the window is opened while the carriage is moving

If the main window is opened while the printer is doing something, be it a swath of a print job or a system task, the printer will:

1. Before the carriage stops, it will finish whatever it was doing when the window was opened. It will not finish an image it was printing, but it will finish the current swath, so as to avoid any impact on image quality. If it was performing a system task it will finish it before stopping.
2. If the carriage finishes on the left side of the printer, the carriage will always slowly move to the right side of the printer,
3. The printheads will be placed in their 'capping' positions.

Here are some different scenarios of what happens when the window is opened:

- If the printer is printing an image when the window is opened: The carriage will not stop immediately, the printer will finish the swath and then stop. If the cover is then closed, the printer will start to print from the position it was stopped.
- If the printer is cutting the media: The carriage finishes the cutting procedure.
- If the printer is checking the SKEW while loading the media: During the skew check, the printer does small movements of the carriage on the right side of the printer, and also moves the media when needed. This procedure checks that the edge of the media is moving laterally or not. If the window is opened while the printer is checking the media SKEW, the printer will complete the skew procedure (and it will continue well after the window has been opened). This is the only case when the printer will not stop the carriage at the end of a lateral movement (as a swath)..

The  safety system in place is designed to detect an object in the path of the carriage as it moves across the printer, any object encountered will cause the system to shut down the driver motor in the carriage. This method of ensuring safety is considered sufficient by the regulatory agencies that inspect and assess the product prior to its placement in the market. The window and its switch are considered a ‘supplementary’ safety feature, and as such the behavior of the switch has been adjusted as a trade off between the level of safety provided and the printer’s functionality.

# General RIP tips and tricks

Here are some general tips and tricks to ensure smooth operation from the RIP to the HP Designjet Z6100 printer:

- Upgrade the printer’s firmware to the latest available version.
- Disable the queue of the printer (from the front panel -> Job Management -> Job Management options -> set queue to 'disable'.
- Ensure that the Onyx RIP is using port 9100 to communicate with the HP Designjet Z6100, otherwise the job might be clipped (the reason for this is some other ports have file size limitations).
- If you find that the PC which is running the RIP starts to slow down, or that the carriage is stopping between swaths while printing:
    - Uninstall the HP Easy Printer Care, the Color Center and/or the HP Printer Utility if these are installed on the PC running the Onyx RIP.
    - If you are printing from the Onyx RIP, disable the Best fit function (nesting algorithm, to be turned off), this is mainly when printing on a 60" printer.

  - Network connection : Ensure that a Gigabit Ethernet connection is used between the PC and the printer to provide sufficient network throughput. To ensure that the traffic between the RIP and the printer do not disrupt your other network traffic, please use a Gigabit network switch (not a hub).

- For a variety of reasons we do not recommend using a crossover LAN cable (direct connection between the printer and the PC)
- When printing from an Onyx RIP, do not try to print on any 'custom media', else a 79:04 will be displayed on the front panel of the printer. This is media selected from the front panel under the “custom” category, created from the Color Center/Easy Printer care/HP Printer Utility or when loading a newer media profile from the Embedded Web server. This issue is fixed in version 7.1 of the Onyx RIP.
- For halftone RIPs: If you notice that the RIP time is longer when printing on the Z6100 than when printing on the HP Designjet 5500 printer, this is caused by the following factors:
  - The 'halftoning resolution' is higher on the HP Designjet Z6100 (for example: 600x1200dpi, or 1200x1200dpi) compared with the HP Designjet 5500 (all printmodes are 600x600dpi).
  - The number of colors is higher, from 6 (HP Designjet 5500) to 8 (HP Designjet Z6100).
  - It is entirely possible that the RIP time increases by a factor between 2 to 6, depending on a variety of factors including: the printmode selected, the file complexity, the PC used and so on. Also, the amount of data sent to the printer is much greater (by up to a factor of 4), requiring more bandwidth over the network.

Notes:

Applications (Vendors) that drive the HP Designjet Z6100 Series through the 'halftone path' :

- Postershop and ProductionHouse (ONYX), ImagePrint (Colorbyte), ColorProof04 (GMG), (Kodak), Newscolor (Newscolor), Founder (Founder), Softrip (Wasatch), Colorburst, Proofgate / Photogate and ProductionServer (Colorgate), FlexiSign and Photoprint (Scanvec), ApogeeX (Agfa), ProofMaster (Perfectproof), Liveprint (Dinax).

Applications (Vendors) that drive the HP Designjet Z6100 through the 'Contone path':

- DesignerEdition and ColorProof (EFI), Posterjet (Eisfeld), Oris Colortuner (CGS), Interplot driver (Bentley), Metadimension (Heidelberg), Shiraz (AIT), Starproof (Compose), Daylight RIP (SCP)

Applications (Vendors) that are able to use both the ‘Contone’ and ‘Halftone’ paths:

- ReproShop, VisualRIP (Caldera), (ExpressDigital), Postershop and ProductionHouse (ONYX) from version 7.1

These lists are provided for information only and are subject to change without notice. For more information, please contact the specific application vendor.

## Frequently Asked Questions

For customers printing from the ONYX RIP to the HP Designjet Z6100 Printer:

**Question:** What should I do when I get a 79:04 displayed on the front panel when printing from the ONYX RIP?

**Answer:** Upgrade to the latest firmware (at least FW 6.0.0.9) or disable the printer queue (from the front panel -> Job Management 0> Job Management options -> set queue to 'disable') If you are getting the 79:04 when printing on any 'custom' media, please upgrade the ONYX RIP to version 7.1

**Question:** My image is getting clipped when printing from the ONYX RIP, how can I solve this?

**Answer:** From the ONYX RIP, within the properties of the printer, set the port to 9100 (instead of LPR). The LPR port has a maximum file size limitation.

**Question:** When printing from the ONYX RIP, my PC becomes too slow and/or the carriage stops between each swath, how can I troubleshoot this problem

**Answer:** A number of different factors can cause this to happen. Here is a troubleshoot checklist which should solve the majority of issues:

1. Uninstall the HP Easy Printer Care, the Color Center and/or the HP Printer Utility. If you need to use this tool, you might be able to install them on another PC.
2. Disable the Best fit function (nesting algorithm, to be turned off), this is mainly when printing on a 60" printer.
3. Make sure that there is a 1GB connection between the printer and PC, and that both the PC and the printer are alone, behind a switch.
4. For a variety of reasons we do not recommended using a cross over LAN cable (direct connection between the printer and the PC).
5. As the number of colors, and the printing resolution of the HP Designjet Z6100 compared to the HP Designjet DJ5500 is higher, the ripping time will be higher.
6. Use the ONYX 7.1 with the latest ONYX drivers for the HP Designjet Z6100. You will then be able to print through the 'contone' path. This has a rendering/ripping resolution from 300ppi (FAST and NORMAL-FAST) to 600ppi (NORMAL and BEST), depending of the image quality setting selected. However, Contone drivers have less control of the color and any media profiles will need to be redone (but the creation will be much quicker and it is much simpler).

**Question:** On my HP Designjet 5500 printer, I was able to select any printmode (resolution, number of passes, ...) and on the HP Designjet Z6100, I have got only 4 choices! For example, when loading a photo media, I cannot select a number of passes lower than 6. What can I do?

**Answer:** Upgrade to firmware GG6.0.0.9 and upgrade the RIP to ONYX RIP 7.1. You will then have many more choices of printmode (around 8-10 per media types selected on the front panel).

**Question:** When printing on the HP Designjet Z6100 form the ONYX RIP, I get an error on the front panel: '61:01, media miss-match'. What can I do?

**Answer:** Upgrade to firmware GG6.0.0.9 and upgrade the RIP to ONYX RIP 7.1. After doing this the probability of having this error is significantly reduced (more print modes available plus warning from the ONYX RIP in case of incompatibility).

**Question:** I am using a specific image quality in my HP Designjet 5500, and I cannot find the same name on the HP Designjet Z6100, which one should I select to get the same image quality while printing faster?

**Answer:** Refer to the table at the beginning of this newsletter 'Recommended Print Modes' . This is a print mode look-up table, showing the optimized upgrade path (mainly for HP media).

# How to troubleshoot the 79:04 System Error

## Introduction

The System error 79:04 is a generic firmware error (equivalent to a blue screen in Windows). It's the System Error that the printer will display when an unknown exception occurs that cannot be pointed to by any specific subsystem of the printer.

Since this is a generic error, there can be multiple causes behind it. This document will cover the most probable causes behind a system error 79:04 and will recommend the most efficient troubleshooting steps to resolve customer issues.

One important point to mention is that, although 79:04 system errors can be caused by a hardware malfunction, the vast majority of 79:04 system errors are pure software or firmware issues. In these cases the issue can only be solved by determining the root cause and implementing a solution. The solution can usually be applied by either correctly configuring a selection, updating the printer's firmware/software that is being used or by fixing an error in the code).

## Possible causes

Since the 79:04 system error is a generic error, the number of possible causes behind it is large. The majority can be grouped, however, into the following groups:

### Job related SE79:04

A specific print job that is not correctly formatted for the printer or that is not correctly processed by it can trigger a 79:04 system error.

The incorrect format or processing can come from two sources:

- Incorrect commands in the job itself. For example, a PS job with some commands that do not have the correct PS format.
- Issues applying to the settings in the job

**Possible symptoms**

79:04 caused by a print job always have the same symptoms:

1. The job is received by the printer and starts to process.
2. In the middle of the processing, the printer stops and displays 79:04.
3. The printer will display the 79:04 system error again immediately after reboot. This is due to the fact that the printer will try to reprint the job, which is pending in the queue, after reboot.
4. After the second reboot, the printer will start up normally
5. If the same job is sent again, it will always produce a 79:04 system error

These types of 79:04 system errors are normally caused by jobs that have been generated by 3rd party applications (RIPs, 3rd party drivers, files exported by an application to PS, PDF, HP-GL/2, RTL, … or any other format supported by the printer). Jobs generated by HP drivers will not normally generate 79:04 system errors, since the output that our drivers generate is very controlled and has been designed taking into consideration the characteristics of our printer's language interpreters.

There is an exception to this general rule: there are certain applications that can generate their own PS code (Adobe PhotoShop, Adobe Illustrator, Adobe Acrobat, Corel Draw, Freehand, QuarkXpress, …). When used with a PS driver, these applications generate the output PS themselves, instead of using the driver's rendering capabilities. This is known as PostScript pass-through. So, when using an HP PostScript driver together with an application that has PS passthrough capabilities, the PS code that comes into the printer has not been rendered by the HP driver, and, should the source file contain any PS commands that are not correctly processed by the printer, a 79:04 system error could occur even though an HP driver is being used.

**Solutions and workarounds**

When a job consistently generates a 79:04 system error, it is either because of a issue in the printer's firmware or because of a defect in the job itself (when it has been generated by 3rd party SW). In order to identify the cause and find out a solution, these issues should always be immediately escalated to the GBU through the GCC.

Also, there are a set of workarounds and short term solutions that can be tested in order to get the customer up and running in the shortest possible time:

1. Send the job using a variety of different settings. Many times, the issue is caused by a combination of the job contents combined with some specific setting(s).
2. If the customer is sending the file directly to the printer, try using the HP driver instead
3. If the issue is occurring when printing through the HP PostScript driver from an application with PS passthrough, try changing the options in the application so that it prints PS as raster (the option is typically located in the "Advanced" options of the application's printing dialog).

## Data related SE79:04

HP Designjet printers have Hard Disks and non volatile memories that contain data bases and files that can be modified with user data. Some examples include:

- The printer's queue
- The hard drive partitions that contain user jobs
- The data base that stores the printer settings
- The data base that stores accounting information

Some of this data is accessed by the printer at start up, and some others are accessed as needed.

If any of this fields contains corrupt data or data with characters or values that cannot be correctly processed by the printer, a 79:04 system error may occur.

### Possible symptoms

There are two different types of symptoms for data related 79:04 system errors:

1. When the corrupt data is accessed during start up:
   a. The printer will display a 79:04 during the start up process
   b. Switching the printer off and on again will not solve the issue. The printer will continue displaying the 79:04 system error until the corrupt data has been cleared through a service procedure
2. When the corrupt data is accessed during normal printer operation
   a. The printer will start up normally
   b. When the data is accessed (for example while printing, while navigating the queue or when changing some settings), the printer displays a 79:04 system error
   c. The printer can reboot normally
   d. When the data is accessed again (typically, under the same conditions as in step "b"), the 79:04 system error is displayed again

### Solutions and workarounds

Many times, data related 79:04 errors are resolved by means of hardware intervention. Since data is stored in physical components (RAM, EEROM and Hard Disk), replacing these components with new ones which are empty usually solves the problem. However, there are quicker and more effective solutions to these types of errors:

1. Clear all information that has been introduced by the user using the standard tools available in the printer:
   a. Delete all jobs from the queue (from the Front Panel or the EWS)
   b. Reset to factory defaults to clear the user's configurations and calibrations

c. Delete any non standard paper preset in the printer (both the ones that have been created by the user and the ones that have been installed as OMES profiles through the EWS or the HP Printer Utility)

2. If step 1 did not resolve the issue, you can use Service Tools to clear additional information that could be causing the issue:

   a. Start the printer in Diagnostics Boot Mode

   b. Perform an EEROM reset

3. If step 2 did not resolve the issue, it is possible to completely clear the information on the Hard Disk and the different EEROMs, leaving them in an equivalent state to a new part:

   a. Access the Service Utilities Menu

   b. In the Secure Disk Wipe menu, set the Sanitize level to "Unsecure mode"

   c. Execute the Disk Wipe. This takes 45-75 minutes and it will completely clear all partitions in the Hard Disk which contain user data, including the partition where the Operating System is installed. After the disk wipe has completed, a backup firmware version will automatically be installed from a backup partition to allow the unit to start up. This firmware version is very old.

   d. The firmware in the printer should be upgraded to the latest official version as soon as the printer has restarted.

After step "c", any 79:04 which is caused by corrupt data in the printer will be solved.

**Important note:**

It is possible that the corrupt data came to be in the printer as a consequence of some activity in the customer's workflow. In this case, it is possible that the issue will happen again. In these cases, it is very important to understand the sequence of events in the customer's workflow that led to the error occurring. Once the error can be traced in the customer's workflow, escalate the issue to the GBU (through the GCC). This is done to implement any changes in the printer's firmware that can prevent these issues occurring again.

## Network related SE79:04

Most HP Designjet printers have built-in networking capabilities. Network settings can be set manually, but in the majority of cases, they are obtained automatically from the printer. These settings include many different fields, such as IP address and subnet mask, available gateways, host and domain names, etc.

In some cases, there can be issues in the firmware that can cause a certain value in one of these fields to be interpreted incorrectly, and this can lead to a 79:04 system error.

### Symptoms

There is no single set of symptoms that can absolutely pinpoint a network related 79:04 system error. However, the following guidelines can be applied:

- It can happen at start up or when accessing the Network Configuration section of the FP
- In both cases, repeating the action with the LAN cable disconnected does not cause the 79:04 to occur

### Solutions and workarounds

In the majority of cases, these issues will be due to an issue in the printer's firmware. As soon as the conditions where the issue happens can be understood, it should be escalated to the GBU through the GCC.

At the same time, the following short term solutions and workarounds can help the customer to get up and running in the shortest possible time:

1. Disconnect the network cable to be able to boot the printer and change network settings
2. In the Network configuration menu in the Front Panel, disable any protocols that you are not using, including IPv6, SNMP and WebServices.
3. If step "2" does not work, try setting a manual configuration of the device:
   a. Enter the correct subnet mask and an IP in the valid range
   b. In the GateWay field, set the same value as in the IP address field
   c. Do not set a host name or a domain name
4. If step "3" does not work and the customer is using the network card which is part of the printer, try using an accessory Jetdirect card instead.

## User Interaction related SE79:04

In some cases the printer may not react as expected when a certain set of conditions coincide. In these cases, if the printer doesn't know how to react, it may simple display a 79:04 system error and force a reboot. Some examples (not real) that can help to illustrate this:

- An error occurs when a job is cancelled when it is at the "Finishing print" state and when the queue is disabled
- An error occurs if the Window is opened while the printer is checking the printheads

These errors will most likely only happen in very specific corner cases that have not been identified during the development or the qualification of the printer, so normally, they do not severely impact the customer, as they do not affect their regular working flows.

### Symptoms

The symptoms here are as numerous as the number of possible interactions between the user and the printer. In any case, it's possible to identify the steps that caused the error to occur and avoid them as the steps will always be the same with no variance.

**Important:** An major element in determining the error is what the state the printer was in at the time the error was displayed. Actions the user has made when the printer is drying for example can produce an error, whereas the same action when the printer is doing something else (or is idle) may not produce any errors.

### Solutions and workarounds

The recommended action plan in these cases is to identify the previous steps that caused the error and:

1. Escalate the issue to the GBU through the GCC in order to have it corrected in the firmware.
2. Recommend to the customer that they try to avoid the same steps to prevent the issue
3. If the conditions that cause the error are in the customer's regular workflow, try to identify a different way of achieving the same result out of the printer.

## Random SE79:04: Concurrence issues and memory leaks

Some 79:04 errors can happen randomly when the printer is being heavily used. However, it's impossible to find a single set of conditions that reproduce the problem. It just happens from time to time, without a defined pattern.

These random 79:04 can have two different types of root causes:

- **Memory leaks:** before a program is executed, it allocates the memory it will need. After the execution is complete, the allocated memory is freed to be used by other programs. If the allocation or the release of the memory are not properly programmed, every time the program is executed some memory will be incorrectly labeled (either as used or as free). This is known as a memory leak.

When a program with a memory leak is executed a lot, the memory becomes progressively full (since it is not properly freed). When the leak becomes too big, the printer is left 'out of memory' to execute new processes and a 79:04 is triggered

- **Concurrence issues:** there are certain resources that can be accessed by multiple programs or by multiple executions of the same program (what is known as multiple threads). Access to these resources must be correctly controlled to prevent unexpected behavior. Issues caused by an incorrect control of these resources are concurrence issues.

  In the following you have a simple example: let's imagine that there is a counter that controls the communication between the JetDirect card and the printer's firmware. Whenever a new packet of information is sent by the JetDirect card to the printer, the counter increases. When the printer receives the packet and processes it correctly, the counter decreases. Another process checks the counter from time to time to see its value and take conclusions from it. If the counter is near 0, it means that the printer is processing correctly, and if it grows too big, it may mean that there is a bottleneck somewhere and maybe the JetDirect card throughput is decreased to control its speed to the printer. However, if the access to this counter is not properly controlled, undesirable effects may happen: in a real environment, a JetDirect card processes thousands of information packets per second, so this counter is updated frequently, both by the JetDirect and the printer. If at a certain point the JetDirect and the printer try to access the counter at the same time and the code is not prepare to handle this, it may happen that the JetDirect cannot increase the counter because the printer is writing to it, and what's worse, that it does not realize this fact. If this happens a few times each second, it may happen that the counter is decreasing faster than it's increasing and that at a certain point it has a negative value. And then, what will the process that is checking this counter do? Most likely, the process will not be prepared to react to a negative value and will launch an exception that will trigger a 79:04 system error.

### Symptoms

This type of 79:04 always occurs in heavy load conditions, so the symptoms will always be similar to this pattern:

- A printer that is being heavily used (printing a project or in a reprographics environment) produces 79:04 errors randomly, forcing the user to reboot.
- After rebooting, the printer can be used without any issues for an extended period of time, but if the workload is consistently high, a random error will occur again.
- The error can never be associated with a specific file. The file that was being printed when the error occurred the last time can be printed without issues after reboot. And a file that has been printed without issues several times can trigger the error in the future.
- This error is very dependant of the workflow the customer has. The most common user workflows have been extensively tested both by HP and by our beta sites, so it is highly unlikely to see random 79:04 issues in these cases. These random issues tend to occur in very specific corner cases, and cannot be reproduced unless the exact conditions of the workflow are replicated. They normally happen when sending files generated by external applications (RIPs, 3rd party drivers, etc.).

### Workarounds and solutions

Random 79:04 errors are, by far, the most complex ones to diagnose and to fix. The only solutions available in these cases are:

1. Identify the root cause (either in the files or in the firmware) and fix it in the code, which requires the intervention of the GBU
2. Test any options available to modify the customer's workflow and see if any combination of them solves the issue

In both cases, a profound understanding of the customer's workflow is necessary. In particular, the information that is needed is:

- Printer front panel settings

- Application that is being used; RIP or driver that is being used
- Application/RIP/Driver settings
- Type of output files this application, RIP or driver is generating
- Some sample files that are representative of what the customer is using
- Operating System
- Method of connection to the printer
- A description of the normal flow when the issue occurs and the typical frequency of occurrence (i.e. once every hour when sending non stop several files, each of them with multiple copies)

With this information, the environment can be replicated in order to try and find workarounds. This is also the information that will be needed at the GBU to investigate and fix the root cause of this issue once it is escalated.

## Hardware related SE79:04

Hardware is, by far, the least likely cause of a 79:04 system error. Replacing hardware components does not normally fix the issue and increases the total turn around time in finding a workable solution.

In some cases, a failure in a component in the printer's electronics may cause a 79:04 system error, since the printer's electronics are involved in the execution of the firmware and the processing of jobs. It needs to be noted, however, that hardware failures in the electronics tend to produce specific system errors that point directly to the component that is failing.

Some HW causes that could be behind a 79:04 error are:

- Defective clusters in the Hard Disk drive. If these clusters are used to execute the firmware or to process a job, they may produce a 79:04. It needs to be noted however, that most 79:04 errors that are resolved by an HDD replacement are in fact, data related 79:04 that could have been solved more efficiently and quickly following the steps in Section 3.
- Defective memory segments. If the RAM memory has some defective segments, a 79:04 may occur when these segments are used.
- Intermittent defects in the electronic components that are involved in the processing of a job: Carriage PCA, Trailing cable, Formatter and Print Mech. This is a highly unlikely cause, since defects in these components will produce subsystem specific errors.

Symptoms

There's no single set of symptoms behind hardware related 79:04 system errors. The most usual ones, however are:

- 79:04 during start up. Rebooting the printer may or may not solve the problem
- 79:04 while processing or printing a job. Rebooting the printer and printing the same job does not always produce the error.

Solutions and workarounds

In the following procedure perform each step as it appears in the list and only move on to the next step once you are sure the 79:04 error has not been cleared:

1. Reboot the printer in Diagnostics Boot mode and execute the service tests to validate the functionality of all the electronics components
    - Execute the troubleshooting for "data related" system errors, refer to page 3, Data related SE79:04

2. Replace the memory
3. Replace the HDD
4. Escalate the issue before replacing any additional parts.

## Troubleshooting based on symptoms

This section will describe which troubleshooting steps to perform for a 79:04 system error based on the symptoms of the issue. Perform each step as it appears in the list and only move on to the next step once you are sure the 79:04 error has not been cleared:

### Front panel displays 79:04 at Start-up

- Reboot the printer twice. If the System error has been caused by a job because its in an incorrect format, rebooting twice will clear the error (the first time after reboot, the printer will attempt to print the job again, and this will cause the error to re-appear). If rebooting the printer twice solves the issue, then it is an issue related to the job and you should refer to page 2, Job related SE79:04.
- Upgrade the printer's firmware. Even if the currently installed firmware version is the latest one, re-install it. Since the printer cannot start normally, you will need to upgrade the firmware while booting the printer in Diagnostics Boot Mode. For this, a special file and a special upgrade process will be needed. You can find the specific information for the printer model you are troubleshooting on page 13, Appendix A .
- Disconnect the network cable and restart the printer. If this solves the problem, then it is a network related 79:04 and you should follow the guidelines for this type of 79:04 on page 4, Network related SE79:04

1. Remove all cartridges, printheads and printhead cleaners (if available). Unload the media. Restart the printer. If the printer can start normally, insert the consumables one by one until you isolate the one that is causing the error. Do NOT insert any of the replaced consumables in another printer
2. Restart the printer in Diagnostics Boot Mode and perform the "Electronics test". If an electronic component is identified as faulty, replace it.
    - Restart the printer in Diagnostics Boot Mode and Reset the EEROM. If the issue is solved by this, this is a data related 79:04 system error and you should follow the guidelines, refer to page 3, Data related SE79:04.
3. If the unit has been used for some time and suddenly has started to show this behavior, replace the Hard Disk Drive (it may be included with the Formatter in some models).
4. If the issue is new and the issue happens since the first boot, do NOT replace the HDD.
5. If none of the previous steps solved the issue, escalate the issue with the following information:

- Unit information: S/N, P/N, accessories
- Conditions where the problem occurs and conditions prior to the first occurrence of the problem
- The results of the previous 8 steps
- The System Error detailed information (this can be obtained by pressing CANCEL + Down)
- The printer logs.

### Front panel displays 79:04 during printer operation – not while sending jobs

1. Reboot the printer.
2. Upgrade the printer's firmware. Even if the currently installed firmware version is the latest one, re-install it.
3. Reset the printer to factory defaults

4. In order to narrow the scope of the issue, try the following:
   a. Disable the queue
   b. Disable any unused network protocols
   c. Disable SNMP and WebServices (if they are available in the printer)
   d. Disable "Sleep mode" from the Service Utilities menu
   e. Delete any Paper Presets that you may have uploaded or created using the printer Spectrophotometer.
5. Restart the printer in Diagnostics Boot Mode and perform the "Electronics test". If an electronic component is identified as faulty, replace it.
6. Restart the printer in Diagnostics Boot Mode and Reset the EEROM. If the issue is solved by this, this is a data related 79:04 system error and you should follow the guidelines for this type error on page 3, Data related SE79:04.
7. Format the Hard Disk drive. To do so, you will need to start the printer normally, enter the Service Utilities menu and then the Secure Disk Erase option. Set the Erase method to "Fast Erase" and then perform the disk erase process. This will take 45-75 minutes and will erase all user information from the disk, resolving any issue caused by corrupt data. After the erase process, a firmware update will be required. If this solves the issue, this is a data related 79:04 system error and you should follow the guidelines for this type of 79:04 on page 3, Data related SE79:04.
8. Try to identify the combination of settings or actions that led to the system error and try to reach the same result with a different combination. Escalate the issue to fix the original problem.
9. If none of the previous steps could solve the issue, escalate it with the following information:
   - Unit information: S/N, P/N, accessories
   - Conditions where the problem occurs and conditions prior to the first occurrence of the problem
   - The result of the previous 8 steps
   - The printer information pages (either printed and faxed or obtained through the Embedded Web Server)
   - The System Error detailed information (it can be obtained by pressing CANCEL + Down)
   - The printer logs.

## Front panel displays 79:04 while printing

### A. While printing a single job

The error happens after a single job is sent. It's easy to identify which job that has produced the error, since every time that this same job is sent, the error is replicated.

1. Reboot the printer twice (after the first reboot, the printer will show the 79:04 system error again, since the printer will attempt to reprint the last job in the queue, which is the one that caused the issue)
2. If you are using an HP driver, update the driver to the latest version
3. Upgrade the printer's firmware. Even if the currently installed firmware version is the latest one, reinstall it. Send the job using different print settings. The following ones can be helpful:
   a. Try sending the job without selecting a media profile in the driver
   b. Try changing the Image Quality settings
   c. If you are using the HP-GL/2 driver, try the option "Send job as bitmap"

d. If you are using the PS driver, try using the HP-GL/2 driver instead

e. If you are using the PS driver from an Adobe application (or any other application that can handle PS), try changing the application's print settings so that the PS is generated as Raster.

4. Try the following Front Panel settings:

   a. Change the Print Language option in the Front Panel from "Automatic" (which is the default setting) to the language that is being printed (PS, HP-GL/2, …)

   b. Queue = OFF

   c. Start Printing = After processing

   d. For PS SKUs, try changing the encoding setting ("Automatic" by default) to Binary or ASCII

5. If you are using a 3rd party application that does not print through the HP driver, try modifying the printing workflow by:

   a. Using an HP driver

   b. Changing the settings in the application's printing dialog

6. If you are using an accessory JetDirect card, try using the internal network connector or USB (if available).

7. Escalate the issue, providing the following information:

   - Unit information: S/N, P/N, accessories
   - Conditions where the problem occurs and conditions prior to the first occurrence of the problem.
   - The result of the previous 7 steps
   - The printer information pages (either printed and faxed or obtained through the Embedded Web Server)
   - The System Error detailed information (it can be obtained by pressing CANCEL + Down)
   - Information on the workflow:
     - Operating System
     - Application
     - Driver
     - Settings in the driver and the application
     - Settings in the printer
     - Connection method and settings:
       - The original file along with the information on how to reproduce the issue
       - A print to file that can reproduce the issue
   - The printer logs.

**B. Random 79:04 during continuous printing**

The error does not happen with a single job. It happens randomly during continuous printing, normally while the printer is managing a heavy load (printing a project or in a reprographics environment).

This type of error is caused either by memory leaks or by concurrence issues in the printer's firmware. They normally happen in non common environments where these memory leaks or concurrence issues that have not been detected during qualification have occurred. These issues cause the printer to crash at a completely random moment during printing, and are not associated to a specific job.

Because of this, troubleshooting these issues is normally quite complex.

1. Reboot the printer twice (after the first reboot, the printer will show the 79:04 system error again, since the printer will attempt to reprint the last job in the queue. If the issue continues occurring randomly, continue troubleshooting
2. If you are using an HP driver, update the driver to the latest version
3. Upgrade the printer's firmware. Even if the currently installed firmware version is the latest one, re-install it.
4. Try the following changes in the workflow:
   a. Change the Print Language option in the Front Panel from "Automatic" (which is the default setting) to the language that is being printed (PS, HP-GL/2, …)
   b. Queue = OFF
   c. Start Printing = After processing
   d. For PS SKUs, try changing the encoding setting ("Automatic" by default) to Binary or ASCII
   e. If you are using the HP-GL/2 driver, try sending the job as a bitmap
5. If you are using a 3rd party application that does not print through the HP driver, try modifying the printing workflow by:
   a. Using an HP driver
   b. Changing the settings in the application's printing dialog
6. Escalate the issue with the following information:
   - Unit information: S/N, P/N, accessories
   - The printer information pages (either printed and faxed or obtained through the Embedded Web Server)
   - The System Error detailed information (it can be obtained by pressing CANCEL + Down)
   - Information on the workflow:
     - Operating System
     - Application
     - Driver
     - Settings in the driver and the application
     - Settings in the printer
     - Connection method and settings
   - Exact information on how to replicate the environment that reproduces the issue, including some example files that can be sent to the printer to replicate a heavy load environment. These files will need to be:
     - Original application files, if the issue happens printing from an application through our driver
     - Print to files if the issue happens printing from a 3rd party application

# 2 System Error Codes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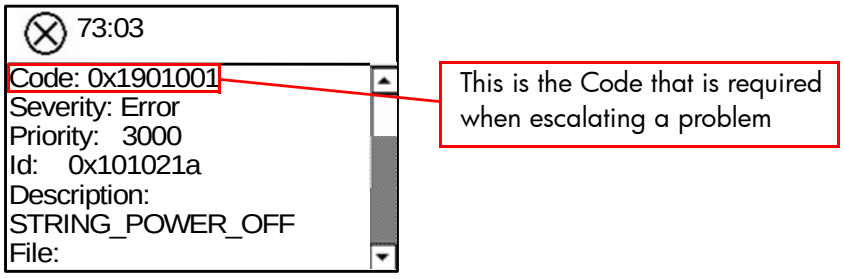
# Introduction

System error codes are hexa-decimal based numbers generally caused by internal system errors. The following pages contain a list of system error codes and their respective descriptions and recommended corrective actions. Only try one recommended action at a time and check if the error code has disappeared.

If you have an error code which is not documented in this Service Manual or you have an error which you cannot resolve, then report the error to the HP Response Center or the nearest HP Support Office. When reporting the error, have the following information ready:

- Model and Serial Number of the printer.
- Which firmware revision the printer is using (See Note below). Check firmware in *Setup Menu / Information Menu / Show Printer Information*.
- The complete error number (See Note below).
- The Service Configuration Print.
- The Current configuration sheet.
- Which software application the customer is using (name, version, etc).

**NOTE:** When reporting the System Error Code, make sure that you supply the full Internal Error Code and the firmware version. Without this information, HP Support Personnel cannot help you. To view the Internal Error Code, hold the DOWN key and press the CANCEL key at the same when the System Error Code is displayed on the Front Panel.




# System Error Codes and Warnings - Explanation

System Error Codes explain which component/system is failing and what action should be taken to resolve the problem.

**System Error Codes** are displayed directly on the front panel (but can also be seen on the Information Page) and have been defined in the format **XX.YZ**. or **XX.n:YZ.m**.

- **XX**: Service Part (2 digits).
- **n**: Service Part Index (if more than one used in the product) - Optional.
  - e.g. Identify the Ink Supply (color and number).
- **Y**: Who should perform the action (1 digit) - (User or Service Engineer).
- **Z**: Action to perform (1 digit).
- **m**: additional actions/information to consider (1 digit) - Optional.
  - e.g. Non-authorized ink was detected, PM was triggered or Printhead in/out of Warranty.

The following table explains the **XX** part of the System Error Code or Warning:

| Code | Component/System |
|---|---|
| 01.0 | Main PCA/Electronics Module (Sausalito) |
| 01.1 | Add-on Electronics Module (Printmech) |
| 01.2 | ISS Electronics Module |
| 02 | Carriage |
| 02.1 | Carriage PCA |
| 03 | Power Supply Unit |
| 05 | Formatter |
| 05.1 | Fan of the Formatter |
| 05.3 | Memory of the Formatter |
| 06 | Hard Disk Drive |
| 07 | Interconnect PCA |
| 08 | Front Panel |
| 11 | Trailing Cable |
| 21 | Service Station |
| 23 | Pressure System (APS) |
| 24 | Ink Delivery Tubes |
| 26.n | Ink Cartridge (color n) |
| 27.n | Printhead (color n) |
| 31 | Cutter |
| 32 | Take-up Reel |
| 38 | Output Tray |
| 39 | Paper Loading Failure |
| 41 | Paper-Axis Motor |
| 42 | Scan-Axis Motor |
| 43 | Vacuum Fan |
| 44 | Aerosol Fan |
| 50 | OMAS |
| 51 | Window/Door Sensor |
| 51.1 | PHC Access Door Sensor |
| 52 | Drop Detector |
| 53 | Media Sensor |
| 54 | Media Lever Sensor |
| 55 | Line Sensor |
| 56 | Drive Roller Encoder Sensor |
| 58 | Color Sensor |
| 61 | Language Interpreting |
| 61.1 | PS Fonts Missing |
| 61.2 | File with Passwords cannot be Printed |
| 63 | Input/Output through LAN Card |
| 64 | Input/Output through USB Port |
| 65 | Input/Output (not know what port) |
| 66 | Print Job Configuration |
| 71 | Memory Management |
| 72 | Generic Firmware |
| 73 | Motor Control Functions |
| 74 | Firmware Upgrade |

| Code | Component/System |
|---|---|
| 76 | Disk Full |
| 77 | WebAccess Application |
| 78 | Borderless |
| 79 | Assertion (Uncontrollable Firmware Error) |
| 81 | Media Advance |
| 85 | Media-Axis Encoder Reading |
| 86 | Carriage Movement |
| 87 | Scan-axis encoder reading |
| 91 | Printhead Firing |
| 93 | Ink Pumping |
| 94 | Color Calibration |
| 98 | Automatic Backup Print Mode Enabled |

The following table explains the **YZ** part of the System Error Code or Warning:

| Code | Recovery Action | Response |
|---|---|---|
| 00 | Replace | Possible for customer to perform action |
| 01 | Reseat/Reconnect/Clean/Adjust (manually) | |
| 02 | Calibrate/Adjust (using Automatic Process) | |
| 03 | Power OFF and Restart the Printer | |
| 04 | Upgrade System Firmware | |
| 05 | Upgrade Driver or Computer Software | |
| 06 | Add Accessory | |
| 07 | Escalate | |
| 08 | Send Plot Again | |
| 09 | Wrong Part Installed | |
| 10 | Replace | hp qualified personnel assistance required |
| 11 | Reseat/Reconnect/Clean/Adjust (manually) | |
| 12 | Calibrate/Adjust (using Automatic Process) | |
| 13 | Power OFF | |
| 14 | Upgrade System Firmware | |
| 15 | Upgrade Driver or Computer Software | |
| 16 | Add Accessory | |
| 17 | Escalate | |
| 18 | Send Plot Again | |
| 19 | Wrong Part Installed | |

# Continuable and Non-Continuable Error Codes

Some of the Error Codes are continuable, which means you can press **Enter** on the front-panel and continue working with the Printer. Non-Continuable Error Codes do not allow you to continue working with the Printer, in this case power the Printer OFF and ON again and see if the System Error disappears. If the Error Code reappears, then the Printer requires an on-site visit in order to resolve the problem.

**Important note:** If the solution calls for a replacment part, replace one component at a time and check if the error has been cleared before replacing another component. Using this procedure you will be able to determine exactly which component has failed.



## System Error:

01.0:03

### Problem Description:

Error impact I2C channel.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- If the System Error continues, replace the Sausalito PCI PCA ⇒ Page 369.

## System Error:

01.0:10

### Problem Description:

Problem with the Sausalito PCI PCA.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Replace the Sausalito PCI PCA ⇒ Page 369.
- If the System Error continues, replace the Main PCA ⇒ Page 375.

## System Error:

01.1:10

### Problem Description:

Problem with the PrintMech PCA.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the cables between the PrintMech PCA and the Sausalito PCI PCA are not damaged and are correctly connected.

- Replace the PrintMech PCA ⇒ Page 384.
- If the System Error continues, replace the Sausalito PCI PCA ⇒ Page 369.

## System Error:

01.2:10

### Problem Description:

ISS PCA problem.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Low humidity in the customer's environment can be a cause of this system errror. You can check the humidity by using the EWS. Click on the 'Printer Information Page' and select the 'Current Infomation' tab. The humidity level will be displayed, a low level that would cause the error is around 20%. To solve errror upgrade with the latest firmware, at least 7.0.0.3. If the printer cannot be upgraded using the normal process, upgrade using the .plt emergency file process ⇒Page 130.
- If the System Error continues, replace the Ink Supply Tubes and Trailing Cable ⇒ Page 312.

**NOTE:** If the Ink Supply Tubes are to be replaced, the Ink Cartridges need to be checked beforehand to see if they are capable of purging the new tubes, if they are not, new Ink Cartridges must also be sent with the parts to be replaced. To check the Ink Cartridges go to ⇒ Page 129.

## System Error:

02.1:10

### Problem Description:

Problem with the Carriage PCA.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Trailing Cable is not damaged.
- Check that the Trailing Cable is correctly connected to the Carriage PCA, Interconnect PCA and to the Sausalito PCI PCA.
- Replace the Carriage PCA ⇒ Page 334.
- Replace the Sausalito PCI PCA ⇒ Page 369.
- Replace the Interconnect PCA⇒ Page 357.

## System Error:

03:10

### Problem Description:

Problem with the Power Supply Unit.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Perform the Electronics Modules Test (⇒ Page 105) to troubleshoot the problem further.
- If the System Error continues, replace the Power Supply Unit ⇒ Page 379.

## System Error:

05.1:10

### Problem Description:

CPU Fan is stopped or burnt.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Replace the CPU Fan ⇒ Page 377.
- If the System Error continues, replace the Main PCA ⇒ Page 375.

## System Error:

05.3:10

### Problem Description:

Main memory size failure.

### Corrective Action:

Try the following:

- Check that at least 256 megabytes of memory is installed in the Printer.
- Check that the Memory Module is installed correctly.
- Try installing the Memory Module in the other Memory slot and check if the System Error appears.
- If the System Error reappears, replace the Memory Module ⇒ Page 373.
- If the System Error does NOT reappear, then the original slot could be faulty. In this case, replace the Main PCA ⇒ Page 375

## System Error:

06:03

### Problem Description:

NVM file has bad CRC.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.

- If the System Error continues, replace the Hard Disk Drive ⇒ Page 377.

## System Error:

06:10

### Problem Description:

Main NVM failure - not detected, read/write failed or readback error.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- If the System Error continues, replace the Hard Disk Drive ⇒ Page 377.

## System Error:

07:10

### Problem Description:

Aerosol Fan driver burnt.

### Corrective Action:

Try the following:

- Replace the Interconnect PCA ⇒ Page 357.
- If the System Error continues, replace the Sausalito PCI PCA ⇒ Page 369.

**NOTE:** Replace one part at a time and check if the error has cleared before replacing another.

## System Error:

08:11

### Problem Description:

Problem with communication between the Front Panel, the Formatter and the HDD.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Front Panel cable is not damaged and is correctly connected to the Front Panel and to the Interconnect PCA.
- Check that the Memory Module is installed correctly.
- Check that the cables between the Interconnect PCA and the Main PCA are not damaged and are correctly connected.
- Check that the cables between the Hard Disk Drive and the Power Supply Unit and the Main PCA are not damaged and are correctly connected.
- Check that the cable between the Power Supply Unit and the Main PCA is not damaged and is correctly connected.

- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- Replace the Hard Disk Drive ⇒ Page 377.
- Replace the Main PCA ⇒ Page 375.
- Replace the Memory Module ⇒ Page 373.
- Replace the Interconnect PCA ⇒ Page 357.
- Replace the Front Panel ⇒ Page 292.
- Replace the Sausalito PCI PCA⇒ Page 369.

## System Error:

11:10

### Problem Description:

Trailing Cable does not seem to be connected.

### Corrective Action:

Try the following:

- Check that the Trailing Cable is not damaged.
- Check that the Trailing Cable is correctly connected to the Carriage PCA, Interconnect PCA and to the Sausalito PCI PCA.
- Replace the Sausalito PCI PCA ⇒ Page 369.
- Replace the Ink Supply Tubes and Trailing Cable ⇒ Page 312.

**NOTE:** If the Ink Supply Tubes are to be replaced, the Ink Cartridges need to be checked beforehand to see if they are capable of purging the new tubes, if they are not, new Ink Cartridges must also be sent with the parts to be replaced. To check the Ink Cartridges go to ⇒ Page 129.

- Replace the Carriage PCA ⇒ Page 334.

## System Error:

21:03

### Problem Description:

Service Station servo shutdown.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- If the System Error continues, replace the Service Station ⇒ Page 300.
- Replace the PrintMech PCA ⇒ Page 384.
- Replace the Interconnect PCA ⇒ Page 357.

**NOTE:** Replace one part at a time and check if the error has cleared before replacing another.

## System Error:

21:10

### Problem Description:

Fault has been detect in the area of the Service Station.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Make sure that the Service Station path is clear. Remove any visible obstacles (e.g. foam from the printer's packaging, screws, plastic parts, etc...) restricting the movement of the Service Station.
- If the System Error continues, replace the Service Station ⇒ Page 300.

## System Error:

21:13

### Problem Description:

Problem with the Service Station.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Make sure that the Service Station path is clear. Remove any visible obstacles (e.g. screws, plastic parts, etc...) restricting the movement of the Service Station.
- If the System Error continues, replace the Service Station ⇒ Page 300.

## System Error:

23:10

### Problem Description:

Problem with pressurization.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the APS cable is not damaged and is correctly connected to the PrintMech PCA.
- Replace the APS Assembly ⇒ Page 324.
- Replace the PrintMech PCA ⇒ Page 384.
- If the System Error continues, replace the Sausalito PCI PCA ⇒ Page 369.

**NOTE:** Replace one part at a time and check if the error has cleared before replacing another.

## System Error:

24:03

### Problem Description:

Ink Setup failure (Ink Supply Tubes purge failed).

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Try purging the Ink Supply Tubes again once the Printer has been rebooted.
- Install new Ink Cartridges in to the Printer and try purging the Printer again.

## System Error:

24:10

### Problem Description:

A broken bag has been detected in one of the Ink Cartridges.

### Corrective Action:

Try the following:

- Remove the Ink Cartridges and check for any ink leaking from the cartridge. In extreme cases ink can contaminate the ISS PCA area which will then require installing a new ISS PCA.

  If the message '**Please replace one of the defective cartridges (*)**. The asterisk represents a number which will identify the failed ink cartridge.

| Number displayed | Ink Cartridge Color Failed |
|---|---|
| 0 | Magenta |
| 1 | Light Magenta |
| 2 | PhotoBlack |
| 3 | Matt Black |
| 4 | Yellow |
| 5 | Light Cyan |
| 6 | Light Gray |
| 7 | Cyan |

- For this issue there is a specific menu slection to check the broken bag error. Perform the "Bag Broken Recovery" Diagnostic (⇒ Page 124) to troubleshoot the error code.

## System Error:

26.0:01

### Problem Description:

Bad contact detected in ISS slot 0 floater.

### Corrective Action:

Try the following:

- Remove the Magenta Ink Cartridge and reinstall it in to the Printer.
- Replace the Magenta Ink Cartridge.
- Check that the ISS to Cartridge cable (Magenta Ink Cartridge) is not damaged and is correctly connected to the Ink Supply Tubes PCA.
- Replace the ISS to Cartridge cable (Magenta Ink Cartridge) ⇒ Page 318.
- Replace the Ink Supply Tubes and Trailing Cable ⇒ Page 312.

**NOTE:** If the Ink Supply Tubes are to be replaced, the Ink Cartridges need to be checked beforehand to see if they are capable of purging the new tubes, if they are not, new Ink Cartridges must also be sent with the parts to be replaced. To check the Ink Cartridges go to ⇒ Page 129.

## System Error:

26.1:01

### Problem Description:

Bad contact detected in ISS slot 1 floater.

### Corrective Action:

Try the following:

- Remove the Light Magenta Ink Cartridge and reinstall it in to the Printer.
- Replace the Light Magenta Ink Cartridge.
- Check that the ISS to Cartridge cable (Light Magenta Ink Cartridge) is not damaged and is correctly connected to the Ink Supply Tubes PCA.
- Replace the ISS to Cartridge cable (Light Magenta Ink Cartridge) ⇒ Page 318.
- Replace the Ink Supply Tubes and Trailing Cable ⇒ Page 312.

**NOTE:** If the Ink Supply Tubes are to be replaced, the Ink Cartridges need to be checked beforehand to see if they are capable of purging the new tubes, if they are not, new Ink Cartridges must also be sent with the parts to be replaced. To check the Ink Cartridges go to ⇒ Page 129.

## System Error:

26.2:01

### Problem Description:

Bad contact detected in ISS slot 2 floater.

### Corrective Action:

Try the following:

- Remove the Photo Black Ink Cartridge and reinstall it in to the Printer.
- Replace the Photo Black Ink Cartridge.
- Check that the ISS to Cartridge cable (Photo Black Ink Cartridge) is not damaged and is correctly connected to the Ink Supply Tubes PCA.
- Replace the ISS to Cartridge cable (Photo Black Ink Cartridge) ⇒ Page 318.

- Replace the Ink Supply Tubes and Trailing Cable ⇒ Page 312.

**NOTE:** If the Ink Supply Tubes are to be replaced, the Ink Cartridges need to be checked beforehand to see if they are capable of purging the new tubes, if they are not, new Ink Cartridges must also be sent with the parts to be replaced. To check the Ink Cartridges go to ⇒ Page 129.

## System Error:

26.3:01

### Problem Description:

Bad contact detected in ISS slot 3 floater.

### Corrective Action:

Try the following:

- Remove the Matte Black Ink Cartridge and reinstall it in to the Printer.
- Replace the Matte Black Ink Cartridge.
- Check that the ISS to Cartridge cable (Matte Black Ink Cartridge) is not damaged and is correctly connected to the Ink Supply Tubes PCA.
- Replace the ISS to Cartridge cable (Matte Black Ink Cartridge) ⇒ Page 318.
- Replace the Ink Supply Tubes and Trailing Cable ⇒ Page 312.

**NOTE:** If the Ink Supply Tubes are to be replaced, the Ink Cartridges need to be checked beforehand to see if they are capable of purging the new tubes, if they are not, new Ink Cartridges must also be sent with the parts to be replaced. To check the Ink Cartridges go to ⇒ Page 129.

## System Error:

26.4:01

### Problem Description:

Bad contact detected in ISS slot 4 floater.

### Corrective Action:

Try the following:

- Remove the Yellow Ink Cartridge and reinstall it in to the Printer.
- Replace the Yellow Ink Cartridge.
- Check that the ISS to Cartridge cable (Yellow Ink Cartridge) is not damaged and is correctly connected to the Ink Supply Tubes PCA.
- Replace the ISS to Cartridge cable (Yellow Ink Cartridge) ⇒ Page 318.
- Replace the Ink Supply Tubes and Trailing Cable ⇒ Page 312.

**NOTE:** If the Ink Supply Tubes are to be replaced, the Ink Cartridges need to be checked beforehand to see if they are capable of purging the new tubes, if they are not, new Ink Cartridges must also be sent with the parts to be replaced. To check the Ink Cartridges go to ⇒ Page 129.

## System Error:

26.5:01

### Problem Description:

Bad contact detected in ISS slot 5 floater.

### Corrective Action:

Try the following:

- Remove the Light Cyan Ink Cartridge and reinstall it in to the Printer.
- Replace the Light Cyan Ink Cartridge.
- Check that the ISS to Cartridge cable (Light Cyan Ink Cartridge) is not damaged and is correctly connected to the Ink Supply Tubes PCA.
- Replace the ISS to Cartridge cable (Light Cyan Ink Cartridge) ⇒ Page 318.
- Replace the Ink Supply Tubes and Trailing Cable ⇒ Page 312.

**NOTE:** If the Ink Supply Tubes are to be replaced, the Ink Cartridges need to be checked beforehand to see if they are capable of purging the new tubes, if they are not, new Ink Cartridges must also be sent with the parts to be replaced. To check the Ink Cartridges go to ⇒ Page 129.

## System Error:

26.6:01

### Problem Description:

Bad contact detected in ISS slot 6 floater.

### Corrective Action:

Try the following:

- Remove the Light Gray Ink Cartridge and reinstall it in to the Printer.
- Replace the Light Gray Ink Cartridge.
- Check that the ISS to Cartridge cable (Light Gray Ink Cartridge) is not damaged and is correctly connected to the Ink Supply Tubes PCA.
- Replace the ISS to Cartridge cable (Light Gray Ink Cartridge) ⇒ Page 318.
- Replace the Ink Supply Tubes and Trailing Cable ⇒ Page 312.

**NOTE:** If the Ink Supply Tubes are to be replaced, the Ink Cartridges need to be checked beforehand to see if they are capable of purging the new tubes, if they are not, new Ink Cartridges must also be sent with the parts to be replaced. To check the Ink Cartridges go to ⇒ Page 129.

## System Error:

26.7:01

### Problem Description:

Bad contact detected in ISS slot 7 floater.

### Corrective Action:

Try the following:

- Remove the Cyan Ink Cartridge and reinstall it in to the Printer.
- Replace the Cyan Ink Cartridge.
- Check that the ISS to Cartridge cable (Cyan Ink Cartridge) is not damaged and is correctly connected to the Ink Supply Tubes PCA.
- Replace the ISS to Cartridge cable (Cyan Ink Cartridge) ⇒ Page 318.
- Replace the Ink Supply Tubes and Trailing Cable ⇒ Page 312

**NOTE:** If the Ink Supply Tubes are to be replaced, the Ink Cartridges need to be checked beforehand to see if they are capable of purging the new tubes, if they are not, new Ink Cartridges must also be sent with the parts to be replaced. To check the Ink Cartridges go to ⇒ Page 129.

## System Error:

26:14

### Problem Description:

A wrong Ink Cartridge has been detected.

### Corrective Action:

Try the following:

- Remove the Ink Cartridges and check that they are the correct ones for this Printer.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- Replace the Ink Cartridges.

## System Error:

27:03

### Problem Description:

An error has occurred in Printhead detection.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Remove the Printheads from the Carriage and reinsert them.
- Replace the Printheads.
- Replace the Carriage Flex Cables ⇒ Page 337.

## System Error:

27:14

### Problem Description:

A wrong Printhead has been detected.

### Corrective Action:

Try the following:

- Remove the Printheads and check that they are the correct ones for this Printer.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- Replace the Printheads.

## System Error:

29:02

### Problem Description:

The maintenance cartridge absorber is almost full. It will have to be replaced soon.

### Corrective Action:

Try the following:

- Replace the Maintenece Cartridge.
- If the message persisits even though the Maintenance Cartridge has been replaced but the printer incorrectly detects that the cartridge is old, check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- Clean the Encoder Strip using a lint free cloth dampened with tap water, then reset the counter (Setup > Resets > Encoder cleaning) ⇒ See the instructions provided in the User Maintenance Kit and ⇒Page 454
- If the new Maintenance Cartridge is not detected, reset the life counter of the part manually ⇒ Page 138.

## System Error:

32:01.1

### Problem Description:

This system error occurrs when there is a small amount of paper printed (less than 79 inches (200cm) long.

### Corrective Action:

Try the following:

- Check there is no obstacle between the Take-up reel optical sensors.
- Check the paper is attached to the TUR spindle.
- Check the TUR switch is in the correct position.
- If needed, use the TUR arrow keys to wind paper before resume printing.
- To resume printing, press OK.

## System Error

32:01.2

### Problem Description:

This system error happens when there is a small amount of paper printed (less than 70 inches long), and the Take Up Reel sensor detects that the loop shaper is (incorrectly) at the bottom of its path, even though the spindle motor has been rotating for more that 3 seconds.

The most probable cause of this error is the user has forgotten to set the switch direction or tape the paper to the spindle core, when the paper reaches the floor and blocks the TUR IR sensors.

### Corrective action

Try the following:

- Check that there is no interference around the Take-up-reel optical sensors.
- Check the paper is attached to the TUR spindle.
- Check the TUR switch is in the correct position.
- Check there is no obstacle between the Take-Up Reel optical sensors
- If required, use the TUR arrow keys to wind paper before resuming the print.
- When the jam is cleared, printing is resumed. Press the Ok key to clear the Warning message.

## System Error:

32:01

### Problem Description:

TUR Disconnected.

### Corrective Action:

Try the following:

- If you want to keep using the Take-up reel, you must turn off the printer and check all Take-up reel cables are connected again (Sensors cables, printer cable).
- If not, you might need to manually unload the paper from the Take-up reel. Remember to cut the paper before (either manually or by pressing the "Form Feed And Cut" button).

## System Error

32:02

### Problem Description

This message is shown during initilization of the printer and is meant as a warning that the TUR has been disconnected while the printer was off. This error is also shown if the user tries to enable the TUR but it is not connected to the Printer.

### Coorective action:

Connect the Take-up Reel to the Printer and press Ok to continue.

## System Error:

41:03

### Problem Description:

Electrical current limit in paper motor.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.

- Open the Window and check for any visible obstacles restricting the movement of the Drive Roller. If there is a wrinkled mass of media inside the paper path, lift the Pinchwheels (using the Media Lever) and clear the obstruction.
- Replace the Media-Axis Motor ⇒ Page 349.
- If the System Error continues, replace the PrintMech PCA ⇒ Page 384.

## System Error:

41:10

### Problem Description:

Electrical fault in paper motor.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Media-Axis Motor cable is not damaged and is correctly connected to the PrintMech PCA.
- Replace the Media-Axis Motor ⇒ Page 349.
- If the System Error continues, replace the PrintMech PCA ⇒ Page 384

## System Error:

42:03

### Problem Description:

Electrical current limit in carriage motor.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Open the Window and check for any visible obstacles restricting the movement of the Carriage Assembly. If there is a wrinkled mass of media blocking the Carriage Assembly, then clear the obstruction.
- Clean the Encoder Strip ⇒ Page 454.
- Replace the Scan-Axis Motor ⇒ Page 346.
- If the System Error continues, replace the PrintMech PCA ⇒ Page 384.

## System Error:

42:10

### Problem Description:

Electrical fault in Carriage Motor or starting the Scan Axis or Homing Scan Axis.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Scan-Axis Motor cable is not damaged and is correctly connected to the PrintMech PCA.
- Clean the Encoder Strip using a lint free cloth dampened with tap water, then reset the counter (Setup > Resets > Encoder cleaning) ⇒ See the instructions provided in the User Maintenance Kit and ⇒Page 454
- Replace the Scan-Axis Motor ⇒ Page 346.
- If the System Error continues, replace the PrintMech PCA ⇒ Page 384

## System Error:

43:10

### Problem Description:

Vacuum Fan Sstopped.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Vacuum Fan cbles are not damaged and are correctly connected to the Interconnect PCA.
- Also check that the cables between the Interconnect PCA and the PrintMech PCA are not damaged and are correctly connected.
- Replace the Interconnect PCA ⇒ Page 357.
- Replace the Vacuum Fan ⇒ Page 304.
- If the System Error continues, replace the PrintMech PCA ⇒ Page 384

## System Error:

44:10

### Problem Description:

Problem with the Aerosol Fan.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Aerosol Fan cable is not damaged and is correctly connected to the Interconnect PCA.
- Replace the Aerosol Fan ⇒ Page 300.
- If the System Error continues, replace the Interconnect PCA ⇒ Page 357.

## System Error:

44:11

### Problem Description:

Aerosol Fan not connected.

### Corrective Action:

Try the following:

- Check that the Aerosol Fan cable is not damaged and is correctly connected to the Interconnect PCA.
- Replace the Aerosol Fan ⇒ Page 300.

## System Error:

46:03

### Problem Description:

Primer servo shutdown.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Replace the Primer Assembly ⇒ Page 294.
- Replace the PrintMech PCA ⇒ Page 384.
- Replace the Interconnect PCA ⇒ Page 357.

## System Error:

46:10

### Problem Description:

Electrical fault in primer motor.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Replace the Primer Assembly ⇒ Page 294.
- Replace the PrintMech PCA ⇒ Page 384.
- Replace the Interconnect PCA ⇒ Page 357

## System Error:

46:13

### Problem Description:

Primer test distance failed.

### Corrective Action:

Try the following:

- Check that the Primer Arm is not damaged and there are no obstacles in its way.

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Clean the Encoder Strip ⇒ Page 454
- Replace the Primer Assembly ⇒ Page 294.

## System Error:

50:01

### Problem Description:

OMAS Navigation failure.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Clean the OMAS window (CREF to procedure in Chap 9)
- Replace the OMAS Module ⇒ Page 351.

## System Error:

50:03

### Problem Description:

FW error in DSP or Engine code or link is broken between PCAs.

### Corrective Action:

Try the following:

- There is a tendancy for this system error to being displayed because of cables becoming disconnected. Check all relavant cables are correctly connected, especially the cables from the OMAS Controller and the Main PCA and the Sausalito PCA.
- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Printer has the correct type of Main PCA is installed, Designjet Z6100 NOT Designjet 4x00.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- Replace the OMAS Controller Card ⇒ Page 362
- Replace the OMAS Module ⇒ Page 351

## System Error:

50.1:10

### Problem Description:

Error with the media advance Sensor component or with the cable between sensor and controller.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- Check that the OMAS Module cable is not damaged and is correctly connected to the OMAS Controller PCA.
- Replace the OMAS Controller Card ⇒ Page 362
- Replace the OMAS Module ⇒ Page 351.

## System Error:

50:11

### Problem Description:

Navigation problems, may be due to a mis-positioned sensor, DOF or skew issue.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- Check that the OMAS Module cable is not damaged and is correctly connected to the OMAS Controller PCA.
- Replace the OMAS Controller Card ⇒ Page 362
- Replace the OMAS Module ⇒ Page 351

## System Error:

50:14

### Problem Description:

FW version mismatch between the controller fw and the version of the file in the Engine disk.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- Replace the OMAS Controller Card ⇒ Page 362

## System Error:

50:17

### Problem Description:

Advisory fw error in DSP or Engine code of the media advance sensor component.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- Check that the OMAS Module cable is not damaged and is correctly connected to the OMAS Controller PCA.
- Replace the OMAS Controller Card ⇒ Page 362
- Replace the OMAS Module ⇒ Page 351.

## System Error:

50.2:10

### Problem Description:

Error with the media advance sensor controller board.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- Check that the CAN cable and the Encoder Cable are correctly connected to the OMAS PCA and the Main PCA (refer to
- Check the connection between the OMAS PCA and the Sausalito PCA (the Sausalito is the card connected just behind the OMAS PCA).
- Check that the OMAS Module cable is not damaged and is correctly connected to the OMAS Controller PCA.
- Replace the OMAS Controller Card ⇒ Page 362

## System Error:

51:10

### Problem Description:

Error detected with the sensor on the Window.

### Corrective Action:

Try the following:

- Check that the Window Sensor cable is not damaged and is correctly connected to the Interconnect PCA.
- Replace the Window Sensor.

## System Error:

51.1:10

### Problem Description:

Error detected with the sensor on the Service Station Door.

### Corrective Action:

Try the following:

- Check that the Maintenance Cartridge Door Sensor cable is not damaged and is correctly connected to the Interconnect PCA.
- Replace the Maintenance Cartridge Door Sensor.

## System Error:

52:01

### Problem Description:

Drop Detector fiber detected.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Replace the Drop Detector ⇒ Page 309.

## System Error:

52:10

### Problem Description:

Drop Detector switch On/Off failure.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Drop Detector cable is not damaged and is correctly connected to the Service Station cable.
- Check that the Service Station cable is not damaged and is correctly connected to the Interconnect PCA.
- Replace the Drop Detector ⇒ Page 309.
- Replace the Sausalito PCI PCA ⇒ Page 369.
- If the System Error continues, replace the Interconnect PCA ⇒ Page 357.

## System Error:

53:10

### Problem Description:

Media sensor.

### Corrective Action:

Try the following:

- Check that the Media Sensor cable is not damaged and is connected correctly to the Interconnect PCA.

- Replace the Media Sensor ⇒ Page 415.

## System Error:

54:10

### Problem Description:

Pinch Lever sensor error detected.

### Corrective Action:

Try the following:

- Check that the Media Lever Sensor cable is not damaged and is connected correctly to the Interconnect PCA.
- Replace the Media Lever Sensor ⇒ Page 423.

## System Error:

55:10

### Problem Description:

Problem with the Line Sensor.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Replace the Line Sensor ⇒ Page 390.
- If the System Error continues, replace the Carriage PCA ⇒ Page 334.

## System Error:

56:01

### Problem Description:

The index sensor readings are unstable after a few retries or the index sensor changes value after latching the value.

### Corrective Action:

Try the following:

- Perform Paper drive diagnostics
- Replace Media drive encoder reader ⇒ Page 417

## System Error:

56:10

### Problem Description:

Analog Encoder calibration failed.

### Corrective Action:

Try the following:

- Replace the Encoder Disc and Sensor ⇒ Page 417.

## System Error:

58:10

### Problem Description:

An error detected with the Color Sensor.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Printer has the latest firmware version. If not, update the Firmware to the latest version.
- Perform the Color Sensor test.
  - If the error is displayed during the printer's initilization, perform the Color Sensor Test from the diagnostic boot mode ⇒ page 119.
  - If the error is displayed after the printer has initialized, for example when performing a Color Calibration/Linearization, perform the Spectrophotometer test ⇒ page 148.
- If the Color Sensor Shutter opens and closes, then replace Color Sensor Assembly ⇒ Page 392.
- If the Color Sensor Shutter is not activated:
  - If the Color Sensor Actuator Lever does not elevate or is broken:
    1. Replace the Color Sensor Actuator Assembly ⇒Page 395.
    2. Clean the Encoder Strip using a lint free cloth with damp water ⇒ Page 454.
  - If the SOL Actuator Lever elevates but does not always catch the shutter, clean the Encoder Strip using a lint free cloth with damp water ⇒ Page 454.
- If the System Error continues, replace the Carriage PCA ⇒ Page 334.

## System Error:

61:01

### Problem Description:

The file format is incorrect and the Printer cannot process the job.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check the graphic language setting of the Printer (Refer to the User's Guide).
- Resend the file to the Printer.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- If printing from a RIP check that the RIP version is the latest available.

## System Error:

61:04.1

### Problem Description:

The Postscript fonts are missing. Upgrading the Firmware will re-install the fonts.

### Corrective Action:

Perform a full firmware upgrade that includes package 'B'.

## System Error:

61:08.1

### Problem Description:

The file cannot be printed because it is password protected.

### Corrective Action:

Resend the file without password protection.

## System Error:

63:04

### Problem Description:

Input/Output problem through the Network Card.

### Corrective Action:

Try the following:

- Check that the Network cable is correctly connected to the Network Card.
- If a Gigabit Ethernet Card is being used, make sure it is correctly installed. If necessary, replace the Gigabit Ethernet Card.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- If the System Error continues, replace the Main PCA ⇒ Page 375.

## System Error:

64:04

### Problem Description:

Input/Output problem through the USB Card.

### Corrective Action:

Try the following:

- Check that the USB cable is correctly connected to the Printer.
- Check that the USB Card is correctly installed.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- Replace the USB card.

## System Error:

65:04

### Problem Description:

Input/Output problem through an unknown port.

### Corrective Action:

Try the following:

- Check that the unknown port cable is correctly connected to the Printer.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.

## System Error:

66:08

### Problem Description:

Cannot print file on current paper type. The paper type has changed since the file was sent, so the file cannot be printed on the paper type currently loaded.

### Corrective Action:

Try the following:

- Resend the file to be printed on the current paper type.
- Change the paper type to the type that was loaded when the file was originally sent.

## System Error:

71:03

### Problem Description:

Out of memory failure.

### Corrective Action:

It is recommended that you remove any unnecessary files from the Hard Disk Drive using the Web Server.

## System Error:

71:19

### Problem Description:

Different S/N found in Main and Backup NVM.

### Corrective Action:

Try the following:

- Perform the “Error 71:19 Recovery” Service Utility (refer to Chapter 4).

**NOTE:** Do not change the Ink Supply tubes and the Hard Disk at the same time as this will cause the system error 71:19.

## System Error:

72:04

### Problem Description:

Generic Firmware error.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.

## System Error:

73:03

### Problem Description:

Carriage encoder reading error.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- Perform the "Scan-Axis" Diagnostic (⇒ Page 97) to further troubleshoot the error code.
- If the System Error continues, perform the "Media Drive" Diagnostic (⇒ Page 101) to further troubleshoot the error code.

## System Error:

74:01

### Problem Description:

Error uploading firmware update file.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Resend the firmware update file to the Printer.

## System Error:

74:04

### Problem Description:

Old vacuum fan, upgrade the firmware.

### Corrective Action:

Try the following:

- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.

## System Error:

76:03

### Problem Description:

Disk out of space.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Resend the file to the Printer.
- If the System Error continues, it is recommended that you remove any unnecessary files from the Hard Disk Drive using the Web Server.

## System Error:

77:04

### Problem Description:

Embedded Web Server internal software error.

### Corrective Action:

Try the following:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.

## System Error:

78.1:04

### Problem Description:

Media Settings area missing in media settings file.

### Corrective Action:

Try the following:

- Resend the file.

## System Error:

79:03

### Problem Description:

Generic Firmware error.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.

## System Error:

79:04

### Problem Description:

Generic Firmware error.

### Corrective Action:

Try the following:

- Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- Try to reprint the image using different selections in the driver
- Disable Nesting and the Queue.
- For more detailed information on troubleshooting the 79:04 system error refer to (⇒Page 31)

## System Error:

81:01

### Problem Description:

Paper servo shutdown.

### Corrective Action:

Try the following:

- Open the Window and check for any visible obstacles restricting the movement of the Drive Roller. If there is a wrinkled mass of media inside the paper path, lift the Pinchwheels (using the Media Lever) and clear the obstruction.
- Perform the "Media Drive" Diagnostic (⇒ Page 101) to further troubleshoot the error code.
- If the System Error continues, replace the Media-Axis Motor ⇒ Page 349.

## System Error:

81:03

### Problem Description:

It was impossible to correctly stop the servo before setting the encoder position.

### Corrective Action:

Try the following:

- Open the Window and check for any visible obstacles restricting the movement of the Drive Roller. If there is a wrinkled mass of media inside the paper path, lift the Pinchwheels (using the Media Lever) and clear the obstruction.
- Perform the "Media Drive" Diagnostic (⇒ Page 101) to further troubleshoot the error code.
- If the System Error continues, replace the Media-Axis Motor ⇒ Page 349.

## System Error:

85:03

### Problem Description:

Problem finding the Drive Roller zero.

### Corrective Action:

Try the following:

- Perform the "Media Drive" Diagnostic (⇒ Page 101) to further troubleshoot the error code.

## System Error:

86:01

### Problem Description:

Carriage servo shutdown.

### Corrective Action:

Try the following:

- Open the Window and check for any visible obstacles restricting the movement of the Carriage Assembly. If there is a wrinkled mass of media inside the paper path, lift the Pinchwheels (using the Media Lever) and clear the obstruction.
- Check that the Carriage Stopper is correctly installed (Refer to Carriage Disassembly Instructions ⇒ Page 339, step 22.).
- Perform the "Scan-Axis" Diagnostic (⇒ Page 97) to further troubleshoot the error code.
- Clean the Encode Strip using a lint free cloth dampened with water⇒Page 454.
- Check the cables are correctly connected between the PrintMech PCA and the Scan Axis Motor.
- If the System Error continues, replace the Scan-Axis Motor ⇒ Page 346.

## System Error:

86:11

### Problem Description:

Scan-Axis length too short.

### Corrective Action:

Try the following:

- Open the Window and check for any visible obstacles restricting the movement of the Carriage Assembly. If there is a wrinkled mass of media inside the paper path, lift the Pinchwheels (using the Media Lever) and clear the obstruction.
- Replace the Encoder Strip and Encoder Sensor ⇒ Page 331.

## System Error:

87:01

### Problem Description:.

This error is displayed when there is a need for the customer to clean the Encoder Strip. Full cleaning instructions come with the User's Maintenance Kit. This message is displayed after a predefined quantity of ink has been consumed by the printer. At the time of firmware revison 7.0.0.3 the quantity of ink used before the 87:01 message is displayed is 10 liters.

### Corrective Action:

Try the following:

- Clean the Encoder Strip using a lint free cloth dampened with tap water, then reset the counter. (Setup > Resets > Encoder cleaning) ⇒ See the instructions provided in the User Maintenance Kit (P/N Q6715A). Refer to ⇒page 454

**NOTE:** This operation is a standard maintenance procedure for the customer. It is fully documented in the User Maintenance Kit. If the User Maintenance Kit is not available the customer must purchase another kit (Q6715A).

## System Error:

91:02

### Problem Description:

The HP Instant Support troubleshooting tool has detected that at least one Printhead has been replaced without having a specific error, and without being recovered/cleaned.

### Corrective Action:

Advise the customer that the next time they want to replace a Printheads they should make sure that at least a Printhead Recovery is performed.

## System Error:

93:11

### Problem Description:

Unable to pressurize the IDS.

### Corrective Action:

Try the following:

- Remove ALL the Ink Cartridges and reinstall them one by one in to the Printer.
- Replace the Ink Cartridges.
- Replace the APS Assembly ⇒ Page 324.
- If the System Error continues, replace the Ink Supply Tubes and Trailing Cable ⇒ Page 312.

**NOTE:** If the Ink Supply Tubes are to be replaced, the Ink Cartridges need to be checked beforehand to see if they are capable of purging the new tubes, if they are not, new Ink Cartridges must also be sent with the parts to be replaced. To check the Ink Cartridges go to ⇒ Page 129.

## System Error:

94:08

### Problem Description:

Color Calibration failed: This errror message is briefly displayed after failing to calibrate.

### Corrective Action:

Try the following:

- There are a few types of media which will cause the calibration to fail if used:
  - Semi-translucent and transparent media (film).
  - Media that is not completly flat with a Satin finish will cause the light to reflect in different directions.
- Perform Color Sensor Test ⇒
- Check the connections of the cables between the Spectrophotometer and the Carriage Assembly.
- Replace Color Sensor ⇒ Page 392
- Replace Carriage PCA ⇒ Page 334

## System Error

94:08.1

### Problem Description

The color calibration failed because the Spectrophotometer measured a value L*less than 100. This error is not displayed on the Front Panel, but is still logged within the warning error list.

### Corrective Action

Try the following:

- When this error is displayed there is a high probability that the embedded Spectrophotometer is dirty and needs to be replaced, perform the Spectrophotometer test to confirm this⇒ page 148
- Check the cable connections between the Carriage PCA and the Spectrophotometer.
- Replace Color Sensor ⇒ Page 392
- Replace Carriage PCA ⇒ Page 334

## System Error

97:01

### Problem Description

The Automatic Paper Advance Calibration failed.

### Corrective Action

Try the following:

- There are a few types of media which will cause the calibration to fail if used:
  - Semi-translucent and transparent media (film)
  - Low quality 3rd party media will cause the printed dots to diffuse.

- Use HP Media to perform the calibration.
- Perform the manual advance calibration (Ink -> image quality maintenance -> Paper advance calibration -> Adjust Paper advance), moving from 0 to 100% represent to an advance of the media by 1.5mm per meter.
- Check cable connections between the densitophotometer/line sensor and the Carriage PCA.
- Replace the Line Sensor ⇒page 390

## System Error:

98:02 (this error code will be logged in the system but will not actually appear on the Front Panel)

### Problem Description:

Switching to lower performance due to Printhead quality.

### Corrective Action:

Try the following:

- Perform Printhead alignment.

# 3 Ink Supplies


- What are Ink Supplies? ..... 80
- General Information About the Ink Supplies ..... 82
- General Precautions When Handling Ink Supplies ..... 82
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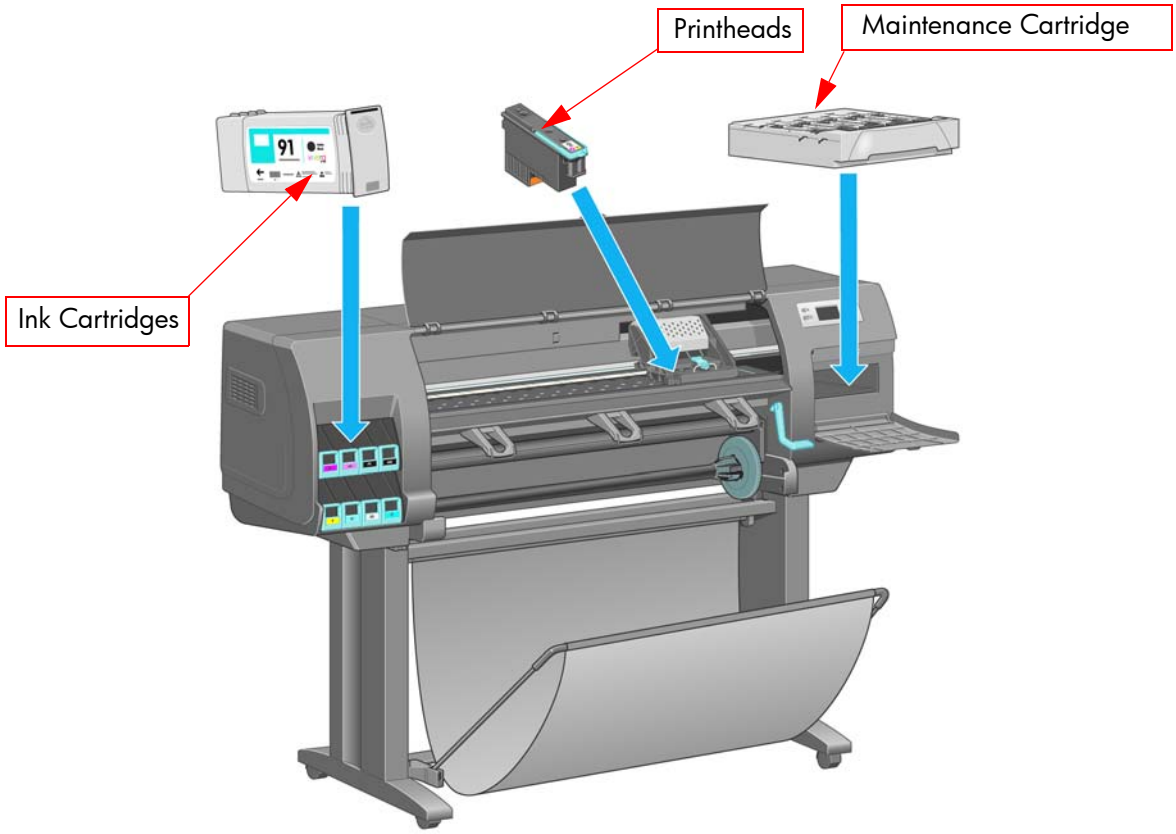
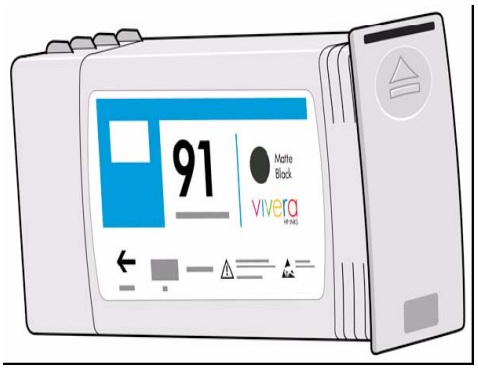
# What are Ink Supplies?

For each of the eight ink colors used in the printer, there are three separate components, the Printhead, the Maintenance Cartridge, and the Ink Cartridge. All of these components are called Ink Supplies.




## Ink Cartridges

The printer's eight Ink Cartridges provide yellow, magenta, light magenta, photo black, matte black, yellow, light cyan, cyan, and light gray ink to the Printheads. The Introductory Ink Cartridges supplied with the printer have 400ml of ink, which is an average lifespan of one month beyond the ink used to set up and install the printer. The 'Host' Ink Cartridges which are purchased to replace the Introductory Ink Cartridges hold appoximately 775ml.




The Ink Cartridges for the HP Designjet Z6100 Printer series require no maintenance or cleaning. As long as each Ink Cartridge is inserted correctly into its slot, the ink will flow to the Printheads. Because the Printheads control the amount of ink transferred to the page, you will continue to see high-quality printing results even when the ink levels are getting low.

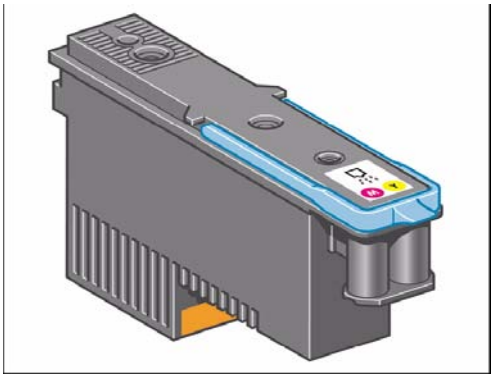
The front panel displays the status of the Ink Cartridge. Using the front panel, detailed information can be checked on the Ink Cartridges.

The following table lists the Ink Cartridges for the HP Designjet Z6100 Printer series.

| Description | P/N |
|---|---|
| HP 91 Matte Black 775 ml Ink Cartridge 775 | C9464A |
| HP 91 Photo Black 775 ml Ink Cartridge 775 | C9465A |
| HP 91 Light Gray 775 ml Ink Cartridge 775 | C9466A |
| HP 91 Cyan 775 ml Ink Cartridge 775 | C9467A |
| HP 91 Magenta 775 ml Ink Cartridge 775 | C9468A |
| HP 91 Yellow 775 ml Ink Cartridge 775 | C9469A |
| HP 91 Light Cyan 775 ml Ink Cartridge 775 | C9470A |
| HP 91 Light Magenta 775 ml Ink Cartridge 775 | C9471A |

## Printheads

The printheads are connected to the ink cartridges. They use jet action to put ink on the paper. Each printhead has two ink cartridge connection points and two jet nozzles, which means that each printhead accommodates two ink cartridges. For example, the following printhead image indicates a printhead that draws and jets ink from the magenta and yellow cartridges.



The Printheads are extremely durable and do not need to be replaced every time an Ink Cartridge is replaced. They are independent of the Ink Cartridges and will continue giving excellent image quality results even if the Ink Cartridges are low on ink.

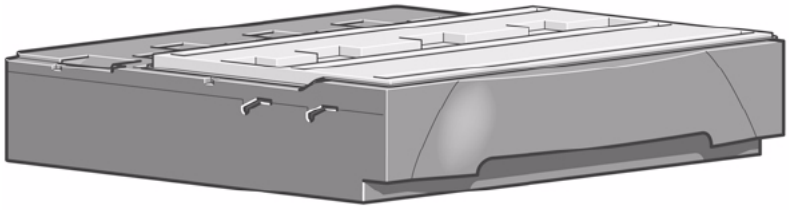
If you notice a decline in print quality such as lines or dots missing from text/graphics, go to Page 180, Initial Print Quality Troubleshooting Actions.

The following table lists the Printheads for the HP Designjet Z6100 Printer series.

| Description | P/N |
|---|---|
| HP 91 Matte Black & Cyan Printhead | C9460A |
| HP 91 Magenta & Yellow Printhead | C9461A |
| HP 91 Light Magenta & Light Cyan Printhead | C9462A |
| HP 91 Photo Black & Light Gray Printhead | C9463A |

## Maintenance Cartridge

Use the Maintenance Cartridge to clean and maintain the Printheads, ensure the best possible print quality, and seal the Printheads when they are not in use to prevent them from drying out.



The Maintenance Cartridge for the HP Designjet Z6100 Printer series is the HP 91 Maintenance Cartridge P/N C9518.

# General Information About the Ink Supplies

**NOTE:** When reporting the System Error Code, make sure that you supply the full Error Code and the firmware version. Without this information, HP Support Personnel cannot help you.

For optimum results from the printer and modular ink delivery system always follow these guidelines when handling the ink supplies:

- Install the Ink Cartridges, Printheads, and Maintenance Cartridge before the install-by date, which is printed on the packaging. The expiration for the Ink Cartridges is the manufacturing date marked on the cartridge plus 30 months.
- Allow the Printer and the Maintenance Cartridge to automatically clean the Printheads.
- Follow the instructions on the front panel of the Printer during installation.
- Avoid unnecessary removal of the Ink Cartridges and Printheads.
- When turning off the Printer always use the power Off button on the front panel. The Printheads are then stored correctly which prevents them from drying out.
- The Ink Cartridges should never be removed while the printer is printing. They should only be removed when the printer is ready for you to replace them. The front panel will guide you through the removal and installation procedure.

# General Precautions When Handling Ink Supplies

**CAUTION:** Do not touch, wipe or attempt to clean the printhead nozzles. This can damage the printhead.

- Handle the ink supplies with care. In particular the Printhead, which is a high precision device and must be handled carefully.
- Do not touch the Printhead nozzles.
- Do not put the Printhead down on the nozzles.
- Do not be rough when handling the Printheads. Always set them down gently.

- Do not drop the Printheads.
- Proper handling will assure optimum performance throughout the Printhead life.
- The Maintenance Cartridge should always be handled and stored upright to avoid a potential spillage of ink.
- Do not touch the end of the Ink Cartridge which is inserted into the printer as there may be a small amount of ink on the connection.
- Avoid storing partially used Ink Cartridges on their ends.

# Priming the Ink System

When the customer first receives the printer, it is supplied with a set of four Setup Printheads pre-installed in the Carriage Assembly. These Setup Printheads are used for the priming of the tubes in the modular ink delivery system. The customer must not remove the Setup Printheads from the Carriage without following the procedures in the *Setup Guide*.

When the Printer is powered ON for the first time, the Printer will automatically perform the priming process. Without the priming process, the customer will NOT be able to use the Printer.

Why does the Printer require priming:

- The Tubes System is empty when the customer receives the Printer.
- The Tubes System has to be pressurized and filled with ink, ejecting any air bubbles.

**CAUTION:** If the Printing Printheads are installed in the carriage during the priming process, they will be rejected and the front panel will show a warning message.

# When Should You Replace the Ink Supplies?

When to change the ink supplies is mostly determined by you with guidance from the front panel. In conjunction with the messages displayed in the front panel and the message explanations in this chapter, you will be able to choose for yourself when is the right time to change the ink supplies.

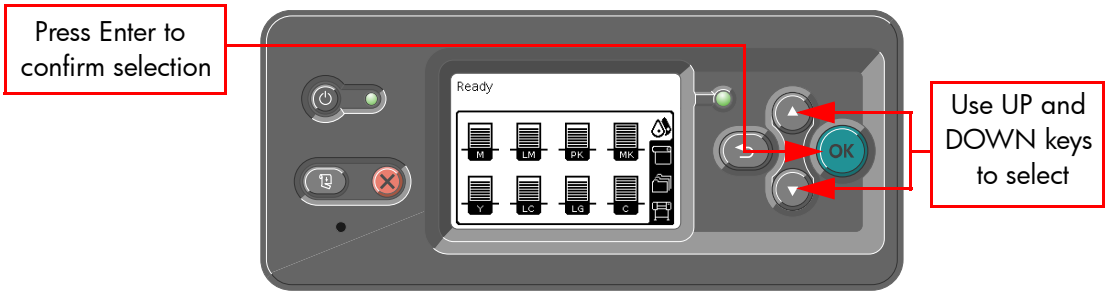
The Printer will also display the ink level and will tell you when the ink supply is low on ink. This means you have constantly updated information about the ink supplies.

Printhead life is anticipated to be 1000ml or twelve months in the printer, whichever occurs first, provided that the printhead is used under normal operating conditions (using HP Ink Cartridges only) and its “install before date” has not lapsed. However results vary depending on the print quality setting being used.

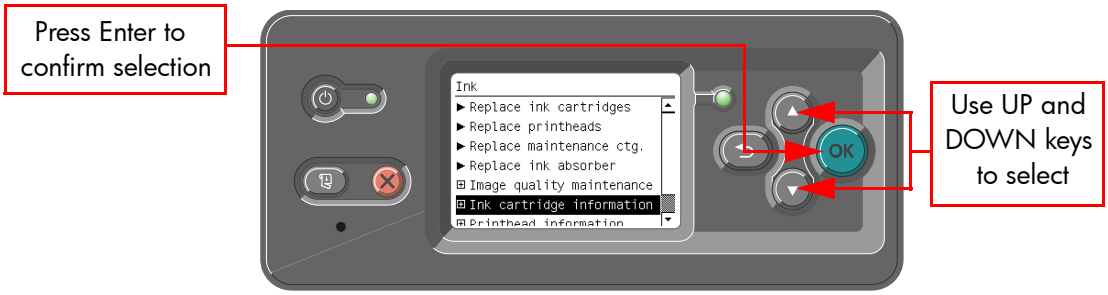
# Obtaining Ink Cartridge Information

Use the following procedure to obtain Ink Cartridge information:

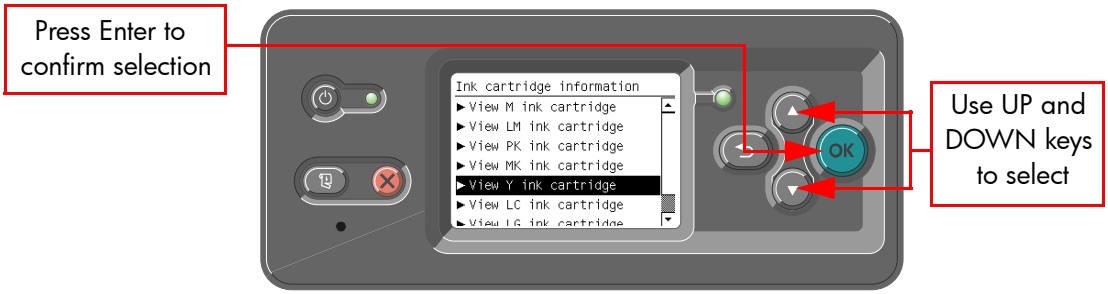
1. Scroll to the Ink Menu icon and press **Enter**.



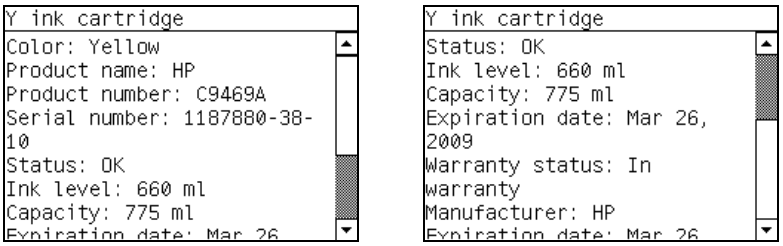

2. In the Ink submenu, scroll to "Ink cartridge information" and press **Enter**.




3. In the Ink Cartridge Information submenu, scroll to the Ink Cartridge that you want information on and press **Enter**.


Press Enter to confirm selection
Ink cartridge information
View M ink cartridge
View LM ink cartridge
View PK ink cartridge
View MK ink cartridge
View Y ink cartridge
View LC ink cartridge
View LG ink cartridge
OK
Use UP and DOWN keys to select

4. The front panel displays information on the selected Ink Cartridge. You can use the UP and DOWN keys to scroll through the information.



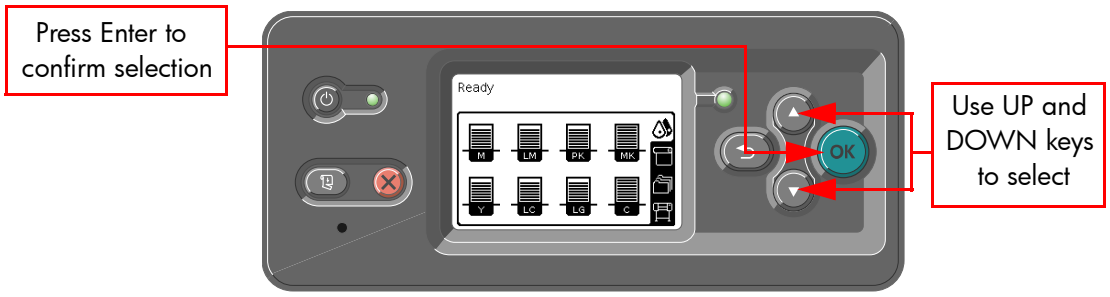

The information supplied is:

- The color of the Ink Cartridge.
- The product name (HP no.91 is recommended).
- The product number of the Ink Cartridge.
- The serial number of the Ink Cartridge.
- The current status of the Ink Cartridge.
- The current ink level of the ink cartridge in milliliters.

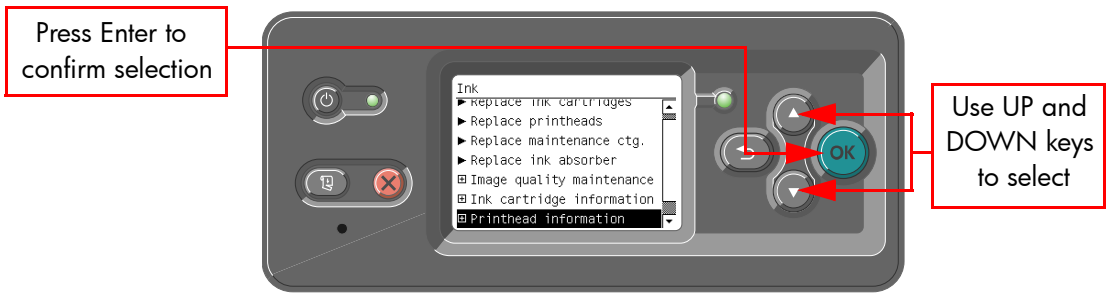
- Original capacity of the ink cartridge in milliliters.
- The warranty status of the Ink Cartridge.
- The manufacturer of the Ink Cartridge (HP is recommended).
- The expiration date of the Ink Cartridge.

# Obtaining Printhead Information

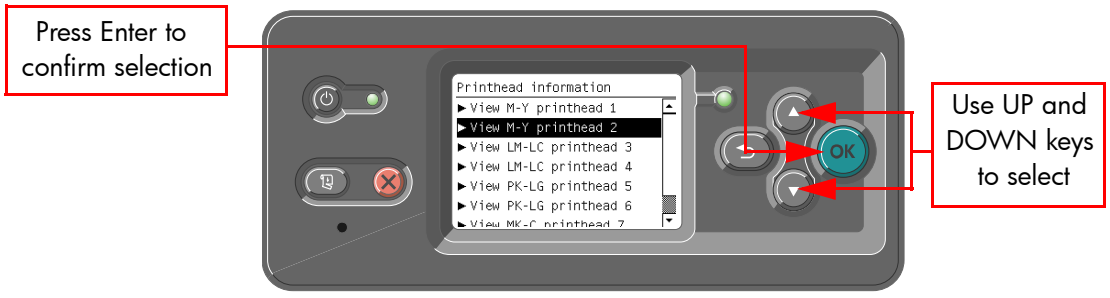
1. Scroll to the Ink Menu icon and press **Enter**.




2. In the Printheads submenu, scroll to “Printhead information” and press **Enter**.




3. In the Printhead Information submenu, scroll to the Printhead that you want information on and press **Enter**.


Press Enter to confirm selection
Printhead information
▶ View M-Y printhead 1
▶ View M-Y printhead 2
▶ View LM-LC printhead 3
▶ View LM-LC printhead 4
▶ View PK-LG printhead 5
▶ View PK-LG printhead 6
OK
Use UP and DOWN keys to select

4. The front panel displays information on the selected printhead.

```
M-Y printhead 2
Color: Magenta-Yellow
Product name: HP 91
Product number: C9461A
Serial number: 4-1-1629570-32-
2006
Status: OK
Ink fired: 109 ml
Warranty status: In warranty
```

The information supplied is:

- The make of the printhead (hp no.91 is recommended).

- The product number of the Printhead.
- The serial number of the Printhead.
- The current status of the printhead.
- How much ink has been fired (consumed) by the printhead. **Note:** It is possible for a printhead to consume more than one Ink Cartridge.
- The current warranty status of the Printhead.
- The current status of the Maintenance Cartridge.

## Ink Cartridge Status Messages

### Status Bars

The front panel displays four horizontal bars. These bars represent how much ink is remaining in the Ink Cartridges: as ink is used up the bars get shorter in length. To see how much ink is remaining, go to the "Ink Cartridge Information" submenu. See Page *83, Obtaining Ink Cartridge Information*

## Ink Cartridge Status While Printing

### OK

The Ink Cartridge is operating correctly and no action is required.

### Low

The **Low** message is an early warning sign and it is advisable that new supplies should be obtained of that particular color. The amount of ink remaining in the Ink Cartridge depends on it's capacity, but there is approximately 14% of ink available for the user.

### Very Low

When the **Very Low** message is displayed, overnight printing should not be attempted. Changing the Ink Cartridge is strongly recommended to prevent the printer from stopping halfway through a print. There is approximately 8% of ink available for the user.

### Empty

The printer will stop and will not be able to continue printing until a new Ink Cartridge has been installed. If this occurs halfway through printing an image, you should check the quality of this image, as stopping mid-plot can affect the print. It would be recommended to reprint the image once a new Ink Cartridge has been installed.

## Ink Cartridge Status While Replacing

The printer can report the following status messages while the Ink Cartridge is being replaced:

### Missing

The Ink Cartridge has not been installed or is installed incorrectly. The Printer will not print until ALL Ink Cartridges have been installed correctly.

### Reseat

The Ink Cartridge is having continuity problems. Try removing the Ink Cartridge from the Printer and inserting it in again.

### Replace

The Ink Cartridge is faulty and needs to be replaced before the printer can continue printing.

### Unknown

The Ink Cartridge installed is not approved **but** the user has confirmed that he is using refilled or non-hp Ink Cartridges. Refer to the User's Guide for further information regarding using refilled or non-hp approved Ink Cartridges.

The main actions for all 4 status messages is as follows:

1. Reseat the Ink Cartridge.
2. If reseating does not resolve the status message, replace the Ink Cartridge.
3. If the Status messages continue to appear, even after replacing the Ink Cartridge, replace the Ink Supply Tubes and Trailing Cable ⇒ Page 312.

## Printhead Status Messages While Printing

Detailed below are the printhead status messages that may be displayed while printing.

### OK

The printhead is operating correctly and will provide an acceptable level of print quality. To find more information on the printheads, refer to Page 85, Obtaining Printhead Information.

### Replace

The Printhead is faulty and needs to be replaced before the printer can continue printing.

If this message continues to appear (for example after installing new Printheads), try the following:

1. Reseat the Printheads and check if the message disappears.
2. Remove the Drop Detector and make sure that there are no obstacles inside which are blocking the sensor.
3. Print the Diagnostic Print ⇒ Page 182 to check that the Printhead nozzles are firing correctly.
4. Perform the Service Station Diagnostic ⇒ Page 116.
5. Replace ALL the Printheads.

## Printhead Status Messages While Replacing

The following are the Printhead status messages that may be displayed while replacing the Printheads.

### Reseat

In this situation, select the Printhead replacement option through the Front Panel but do NOT remove the Printheads. If this status message continues to appear then remove the Printheads and install them again.

### Remove

The Printhead is not a suitable type for use in printing (for example, a Setup Printhead).

### Missing

No Printhead has been detected in that Carriage stall. If a Printhead is installed in the Carriage stall when this status message is shown:

1. Reseat the Printhead, making sure it is installed correctly.

2. Clean the Carriage and Printhead flex circuits using the Carriage Interconnect Wiper ⇒ Page 91.
3. Replace the Printhead.
4. Perform the Electronic Systems Test ⇒ Page 105.

**NOTE:** If all the Printheads are installed but have the Status message "Missing", it is possible that the Carriage Assembly is faulty.

## Maintenance Cartridge Status Messages While Printing

Detailed below are the Maintenance Cartridge status messages that may be displayed while printing.

### OK

The Maintenance Cartridge is operating correctly and no action is required.

### End of Life

The Maintenance Cartridge has reached the end of it's life and should be replaced.

## Maintenance Cartridge Status Messages While Replacing

The following are the Maintenance Cartridge status messages that may be displayed while replacing the Printheads.

### Reseat Cleaner

In this situation, remove the Maintenance Cartridge and install it again.

### Missing

The Maintenance Cartridge has not been installed or is installed incorrectly. The Printer will not print until the Maintenance Cartridge has been installed correctly.

### Not replaced with Printhead

A new Printhead has been installed without installing a new Maintenance Cartridge that came with it. Make sure a new Maintenance Cartridge is installed every time you replace a Printhead.

If a Maintenance Cartridge needs to be removed or reseated, you must first start the Printhead Replacement process. Open the window when prompted to do so by the front panel. If the front panel shows the Printheads with **no** Printhead blinking, you do not need to touch the Printheads. Just close the window again, and the Printer will proceed to Maintenance Cartridge replacement.

# Summary of Solving Ink Supplies Problems

Most of the problems that you could encounter when working with the ink supplies are solved with guidance from the front panel. A full list of front panel messages are supplied in the User's Guide.

## Problems reseating the printhead

If you have inserted the printhead into the printhead carriage assembly and the printer does not "BEEP" try the following steps.

**CAUTION:** Check that during the priming process, the Setup Printheads are installed in the Carriage. If the printing Printheads are installed in the carriage during the priming process, they will be rejected and the front panel will show a warning message.

- Check that the protective tape has been removed from the printhead.
- Insert the Printhead into the Carriage Assembly but this time correctly close the cover using the latch.
- Clean the electrical contacts on both the printheads and the printhead Carriage Assembly using the carriage interconnect wiper ⇒ Page 91.
- Replace the Printhead with a new one.

## You Cannot Insert the Ink Cartridge Into the Printer

1. Ensure that you have the correct hp no.91 Ink Cartridge.
2. Ensure that the Ink Cartridge is the correct color for that slot.
3. Ensure that the Ink Cartridge is the correct orientation, with the color coded label at the top.

**CAUTION:** Never clean inside the Ink Cartridge slots as this can cause damage to the Printer.

## You Cannot Insert the Printhead Into the Printer

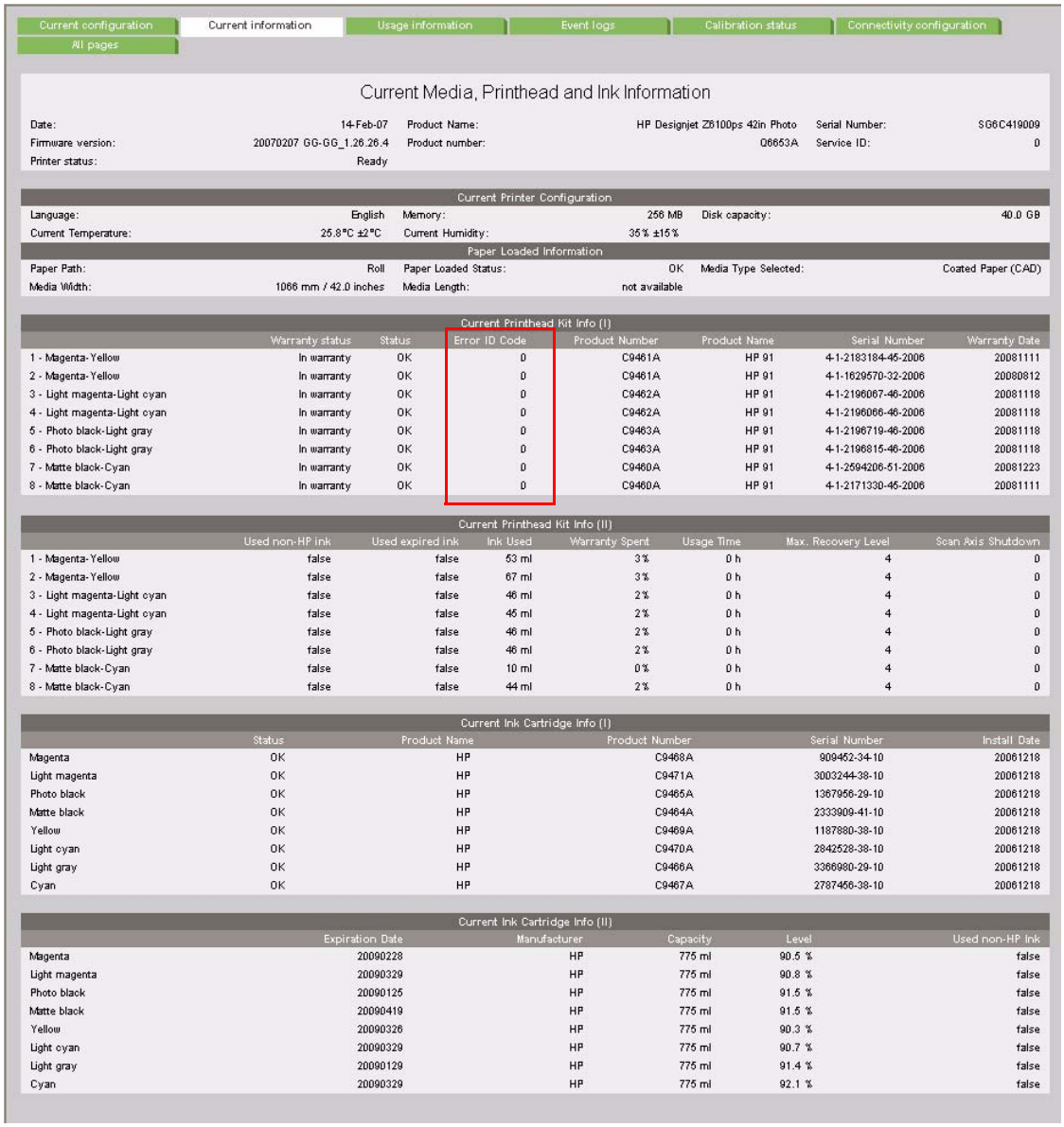
1. Ensure that you have the correct hp no.91 Printhead.
2. Ensure that the printhead is the correct color for that slot.
3. Ensure that the printhead is in the correct orientation.
4. Ensure that the protective cap is removed from the Printhead.

## You Cannot Insert the Maintenance Cartridge Into the Printer

1. Ensure that you have the correct hp no.91 Maintenance Cartridge.
2. Ensure that the Maintenance Cartridge is in the correct orientation.

# Troubleshooting Printhead Error Codes

The Printhead Error Codes can be found on the Service Information Print (Setup Menu/Information Menu/ Internal Prints/Print Service Information/Current Information). The actual error code is a decimal number and it has to be converted to a binary number before it can be used.



Current configuration | Current information | Usage information | Event logs | Calibration status | Connectivity configuration | All pages

Current Media, Printhead and Ink Information

| | | | | | |
|---|---|---|---|---|---|
| Date: | 14-Feb-07 | Product Name: | HP Designjet Z6100ps 42in Photo | Serial Number: | SG6C419009 |
| Firmware version: | 20070207 GG-GG_1.26.26.4 | Product number: | Q6653A | Service ID: | 0 |
| Printer status: | Ready | | | | |

Current Printer Configuration

| | | | | | |
|---|---|---|---|---|---|
| Language: | English | Memory: | 256 MB | Disk capacity: | 40.0 GB |
| Current Temperature: | 25.8°C ±2°C | Current Humidity: | 35% ±15% | | |

Paper Loaded Information

| | | | | | |
|---|---|---|---|---|---|
| Paper Path: | Roll | Paper Loaded Status: | OK | Media Type Selected: | Coated Paper (CAD) |
| Media Width: | 1066 mm / 42.0 inches | Media Length: | not available | | |

Current Printhead Kit Info (I)

| | Warranty status | Status | Error ID Code | Product Number | Product Name | Serial Number | Warranty Date |
|---|---|---|---|---|---|---|---|
| 1 - Magenta-Yellow | In warranty | OK | 0 | C9461A | HP 91 | 4-1-2183184-46-2006 | 20081111 |
| 2 - Magenta-Yellow | In warranty | OK | 0 | C9461A | HP 91 | 4-1-1629570-32-2006 | 20080812 |
| 3 - Light magenta-Light cyan | In warranty | OK | 0 | C9462A | HP 91 | 4-1-2196067-46-2006 | 20081118 |
| 4 - Light magenta-Light cyan | In warranty | OK | 0 | C9462A | HP 91 | 4-1-2196066-46-2006 | 20081118 |
| 5 - Photo black-Light gray | In warranty | OK | 0 | C9463A | HP 91 | 4-1-2196719-46-2006 | 20081118 |
| 6 - Photo black-Light gray | In warranty | OK | 0 | C9463A | HP 91 | 4-1-2196815-46-2006 | 20081118 |
| 7 - Matte black-Cyan | In warranty | OK | 0 | C9460A | HP 91 | 4-1-2594206-51-2006 | 20081223 |
| 8 - Matte black-Cyan | In warranty | OK | 0 | C9460A | HP 91 | 4-1-2171330-45-2006 | 20081111 |

Current Printhead Kit Info (II)

| | Used non-HP ink | Used expired ink | Ink Used | Warranty Spent | Usage Time | Max. Recovery Level | Scan Axis Shutdown |
|---|---|---|---|---|---|---|---|
| 1 - Magenta-Yellow | false | false | 53 ml | 3% | 0 h | 4 | 0 |
| 2 - Magenta-Yellow | false | false | 67 ml | 3% | 0 h | 4 | 0 |
| 3 - Light magenta-Light cyan | false | false | 46 ml | 2% | 0 h | 4 | 0 |
| 4 - Light magenta-Light cyan | false | false | 45 ml | 2% | 0 h | 4 | 0 |
| 5 - Photo black-Light gray | false | false | 46 ml | 2% | 0 h | 4 | 0 |
| 6 - Photo black-Light gray | false | false | 46 ml | 2% | 0 h | 4 | 0 |
| 7 - Matte black-Cyan | false | false | 10 ml | 0% | 0 h | 4 | 0 |
| 8 - Matte black-Cyan | false | false | 44 ml | 2% | 0 h | 4 | 0 |

Current Ink Cartridge Info (I)

| | Status | Product Name | Product Number | Serial Number | Install Date |
|---|---|---|---|---|---|
| Magenta | OK | HP | C9468A | 909452-34-10 | 20061218 |
| Light magenta | OK | HP | C9471A | 3003244-38-10 | 20061218 |
| Photo black | OK | HP | C9465A | 1367956-29-10 | 20061218 |
| Matte black | OK | HP | C9464A | 2333909-41-10 | 20061218 |
| Yellow | OK | HP | C9469A | 1187880-38-10 | 20061218 |
| Light cyan | OK | HP | C9470A | 2842528-38-10 | 20061218 |
| Light gray | OK | HP | C9466A | 3366980-29-10 | 20061218 |
| Cyan | OK | HP | C9467A | 2787456-38-10 | 20061218 |

Current Ink Cartridge Info (II)

| | Expiration Date | Manufacturer | Capacity | Level | Used non-HP Ink |
|---|---|---|---|---|---|
| Magenta | 20090228 | HP | 775 ml | 90.5 % | false |
| Light magenta | 20090329 | HP | 775 ml | 90.8 % | false |
| Photo black | 20090125 | HP | 775 ml | 91.5 % | false |
| Matte black | 20090419 | HP | 775 ml | 91.5 % | false |
| Yellow | 20090326 | HP | 775 ml | 90.3 % | false |
| Light cyan | 20090329 | HP | 775 ml | 90.7 % | false |
| Light gray | 20090129 | HP | 775 ml | 91.4 % | false |
| Cyan | 20090329 | HP | 775 ml | 92.1 % | false |

In order to convert the decimal error code to a binary error code, you can use a calculator. For example, if you had the error code 4099, you would enter 4099 as a decimal number and then select the binary option which would give you a binary number of 1000000000011.

The following table explains the meaning of the different bits (0 or 1). When the value of the error code is reported as 0, it means that the Printhead is working correctly:

| Bit | Meaning | Bit | Meaning |
|---|---|---|---|
| 1st | FAILS_LOGICAL_V | 11th | BAD_ACUMEN_ACCESS |
| 2nd | FAILS_CONTINUITY | 12th | WRONG_MODEL |
| 3rd | SHUTDOWN | 13th | MISMATCH |
| 4th | FAILS_VPP | 14th | CSDATA_NOT_RESPONDING |
| 5th | TEMP_EXTREMELY_HIGH | 15th | CSDATA_TRANSMIT_ERROR |

| Bit | Meaning | Bit | Meaning |
|---|---|---|---|
| 6th | TEMP_EXTREMELY_LOW | 16th | FAILS_ENERGY_CALIBRATION |
| 7th | TEMP_TOO_HIGH | 17th | EMPTY_DUMMY |
| 8th | TEMP_TOO_LOW | 18th | FULL_DUMMY |
| 9th | BAD_ACUMEN_INFO | 19th | END_OF_LIFE |
| 10th | NO_PEN | 20th | OUT_OF_WARRANTY |

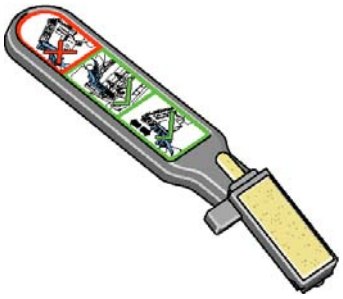
The binary number needs to be read from right to left so that the 1st bit corresponds to the right one of the binary number. For example, the error code 4099 is converted to binary number 10000000000011. So using the table above, the error code means “FAILS_LOGICAL_V”, “FAILS_CONTINUITY” and “MISMATCH”.

# Carriage Interconnect Wiper

**NOTE:** The Carriage Interconnect Wiper is part of the Maintenance Kit. All the instructions needed to use the Carriage Interconnect Wiper will be packaged with the kit.

Whenever you replace the Printhead, check the empty slots to see if they need cleaning. In extreme circumstances, when a Printhead is inserted, it is possible that the Printer will not recognize it due to the build-up of ink on the electrical connection between the Printhead and the Carriage Assembly.

Included with the HP Designjet Printer, is a Carriage Interconnect Wiper. This tool is provided in a separate package. It also contains replacement sponges and an instruction sheet. This tool should be used for cleaning the electrical interconnects of both the Carriage Assembly and the Printhead.



If the front panel displays the message “Reseat” or “Replace” next to the offending printhead, try cleaning the flex circuits of the Carriage and the Printheads.

**CAUTION:** Do not touch, wipe or attempt to clean the printhead nozzles. This can damage the printhead and reduce print quality.

# Warranty Information for Ink Supplies

## Ink Cartridge

The warranty for the Ink Cartridges will end when one of the following occurs:

- 30 months from the date of manufacture

or

- When the advertised deliverable ink has been reached

- Host Ink Cartridge: 775ml/26.2 floz
- Introductory Ink Cartridge: 400ml/13.5 floz

or

- When the user confirms that they have used non-hp ink in empty over-ride mode.

The actual end of warranty date is printed on the supply label.

## Printheads

The warranty for the Printheads will end when one of the following occurs:

- 24 months from the date of manufacture that is printed on the Printhead

or

- When 1200ml/42 oz of HP original ink has been consumed by the Printhead

or

- When the user confirms that they have used non-hp ink in empty over-ride mode.

# 4 Service Tests and Utilities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# Introduction

This chapter explains how to use the built-in Service Tests and Service Utilities and what to do if any of the Service Tests fail.

**NOTE:** If possible, always perform a Service Test on the component that you are about to replace, just to make sure that is the component that has failed. If the test on that component passes, there is no need to replace it.

# Diagnostics - Self Test

Whenever the Printer is switched ON, it automatically performs a series of internal self tests and mechanical initialization sequences. If any of the parts fail, a system error will appear and you should consult “System Error Codes” on page 43.

# Phone Support

In certain circumstances, a Call Agent can try and troubleshoot the Printer by requesting the Customer to perform a Service Test via the phone. Using this process, it can be determined whether the Printer requires any on-site maintenance.

Remember that the Key combination for the Customer to Enter the Service Tests and Utilities is different from the one that the Customer Engineer will use.

# Service Tests (Diagnostics)

The following is a list of all internal Service Tests available in the Printer. See page 94 for instructions on how to enter the Service Tests menu.

1. Scan Axis Test ⇒ page 97

   The purpose of this test is to verify the operation of components related to the Scan Axis.

2. Media Drive Test ⇒ page 101

   The purpose of this test is to verify the operation of components related to the Media Axis.

3. Electronics Module Test ⇒ page 105

   The purpose of this test is to verify the operation of the:

   - Main PCA (Formatter).
   - Printer Configuration.
   - Sausalito PCI PCA.
   - Power Supply Unit.
   - PrintMech.
   - Interconnect PCA.
   - Carriage Communication.
   - ISS Communication.

4. Carriage Assembly Test ⇒ page 112

   The purpose of this test is to verify the operation of the Carriage Assembly.

5. Sensors Test ⇒ page 112
   - The purpose of this test is to verify the operation of the following Sensors:
   - Window Sensor.
   - Printhead Cleaner (PHC) Access Door Sensor.
   - Media Lever Sensor.
   - Media Sensor.
6. Ink Delivery System Test ⇒ page 115

   The purpose of this test is to verify the operation of the Ink Supply Tubes.
7. SVS Test ⇒ page 116

   The purpose of this test is to verify the operation of the Service Station.
8. Air Pump System Test ⇒ page 116

   The purpose of this test is to verify the operation of the Air Pressurization System (APS).
9. Vacuum Fan Test ⇒ page 117

   The purpose of this test is to verify the operation of the Vacuum Fans.
10. OMAS Module Test ⇒ page 117

    The purpose of this test is to verify the operation of the OMAS system.
11. EEROM Reset ⇒ page 118

    The purpose of this test is to reset the EEROM.
12. Color Sensor Test ⇒ page 119

    The purpose of this test is to verify the operation of the Color Sensor.
13. Aerosol Test ⇒ page 122

    The purpose of this test is to verify the operation of the Aerosol Fan.
14. Primer Test ⇒ page 122

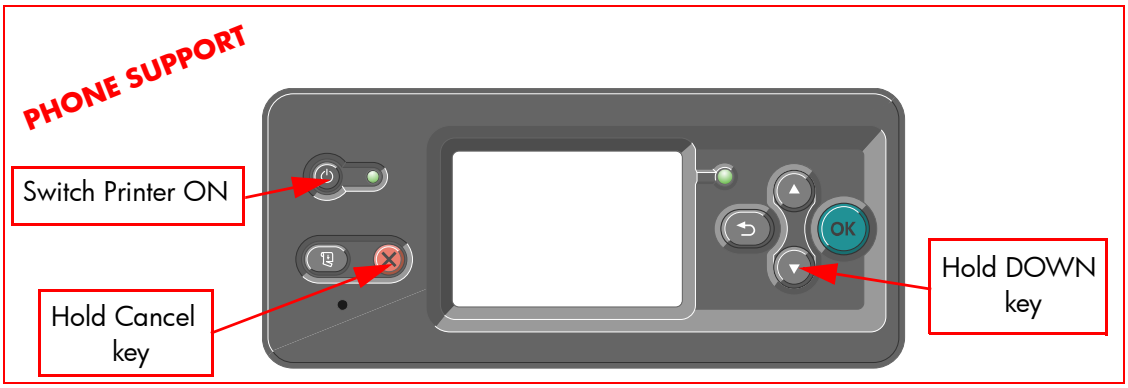
    The purpose of this test is to verify the operation of the Aerosol Fan.
15. Service Special Utilities s ⇒ page 129

    This option allows you to:
    - Recover the Printer from a Bag Broken error ⇒ page 124.
    - Set the Serial Number and Part Number in case both the Hard Disk Drive and the Ink Supply Tubes are replaced at the same time ⇒ page 126.
    - View the information relating to the IO ⇒ page 128.
    - View the Firmware Version, Part Number, Serial Number and PS Unit Configuration ⇒ page 128.
    - Check Ink Supplies ⇒ page 129.
    - Change primer status⇒ page 130.

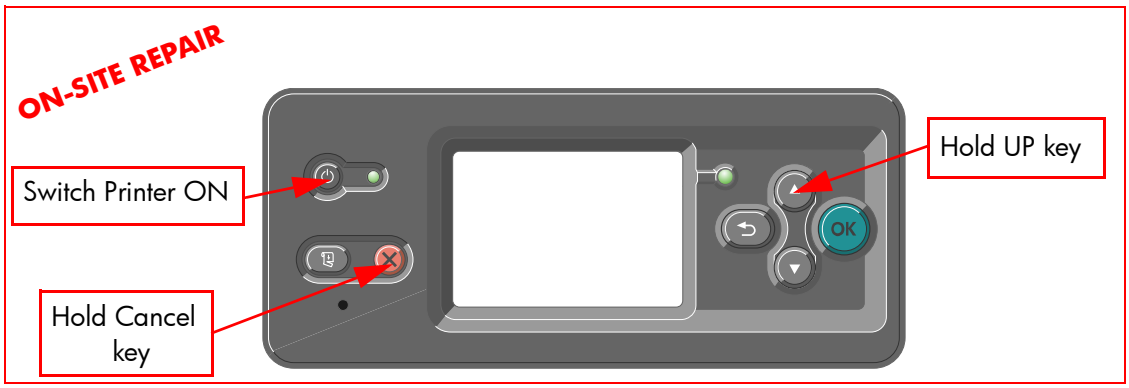
# Entering the Service Tests Menu

**NOTE:** In order to enter the Service Utility Menu, please refer to the instructions on Page <cross reference>4-60.

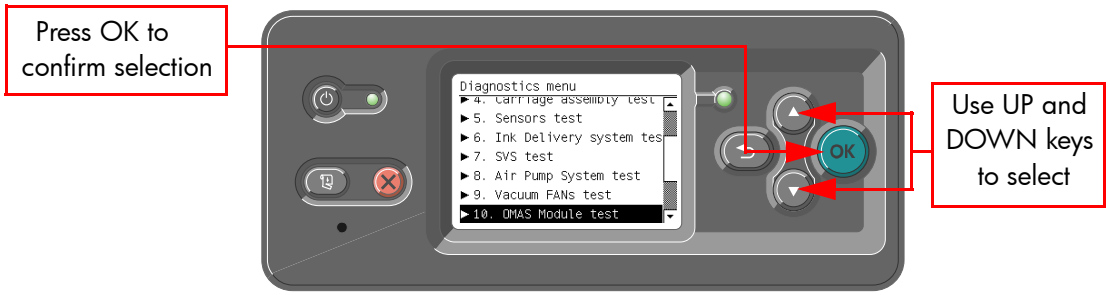
1. Make sure the printer is switched OFF from the power switch on the front of the printer and **NOT** from the power switch on the back of the printer.
2. For Call Agents who will request the User to Perform certain troubleshooting action, hold the **Down** arrow key and the **Cancel** key down and switch the printer **ON** using the front power switch. Wait until you hear one beep (usually after 5 seconds) before releasing ALL three keys.




3. For On-Site Engineers, hold the **Up** arrow key and the **Cancel** key down and switch the printer **ON** using the front power switch. Wait until you hear one beep (usually after 5 seconds) before releasing ALL three keys.




4. Once inside the Service Tests Menu use the **Arrow** keys to scroll through the "Service Tests" selections. Press the **Enter** key to begin a specific test when the required Service Test is highlighted.


Press OK to confirm selection
Diagnostics menu
▶ 5. Sensors test
▶ 6. Ink Delivery system tes
▶ 7. SVS test
▶ 8. Air Pump System test
▶ 9. Vacuum FANs test
▶ 10. OMAS Module test
OK
Use UP and DOWN keys to select

**NOTE:** The Service Tests work in a special Mode which does NOT require the full Initialization of the Printer. Therefore it is important that once you have finished with the Service Tests, you MUST power OFF the Printer and Power ON again before trying to print.

**NOTE:** In some cases a quick press of a button may not be recognized by the Printer. When pressing a button, be sure to press it deliberately and all the way to the bottom of its travel.

**NOTE:** If the Printer hangs up during a test, switch the Printer OFF and restart from step 1.

## 1. Scan Axis Test

The purpose of this test is to diagnose a failure in the operation of components related to the Scan Axis.

You must perform the Scan-Axis Test after:

- System Error Code 86:YX.
- System Error Code 42:YX.
- System Error Code 73:YX.
- System Error Codes related to Scan-Axis shutdown or Carriage jam.

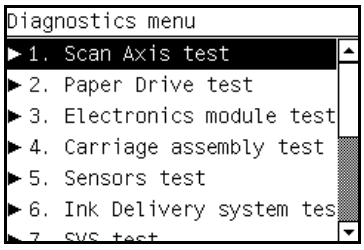
**WARNING!:** ALL THE COVER SENSORS ARE DISABLED WHEN IN THE SERVICE TESTS MENU. IF THE CARRIAGE IS MOVING IT WILL NOT STOP IF THE WINDOW IS OPENED, SO BE VERY CAREFUL NOT TO PUT YOUR HANDS INSIDE.

**NOTE:** In order to enter the Service Utility Menu, please refer to the instructions on Page <cross reference>4-60.

Perform the Scan Axis test as follows:

**NOTE:** Perform this test with the Printheads and the Tubes System installed in order to get values that can be compared correctly.

1. In the Service Tests submenu, scroll to "1. test" and press **Enter**.




2. The Printer will start to initialize the Scan-Axis system and the Front Panel will display the following information:
   - Starting Sausalito.
   - Starting Tests PWM.
   - Starting Tests GPIO.
   - Set GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 48. Check also **System Error Code 01.0:10** (refer to page 47).

- Clear GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

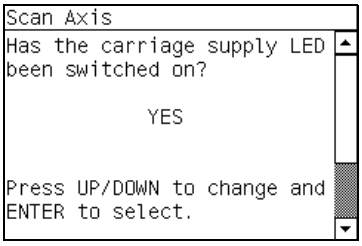
- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 48. Check also **System Error Code 01.0:10** (refer to page 47).

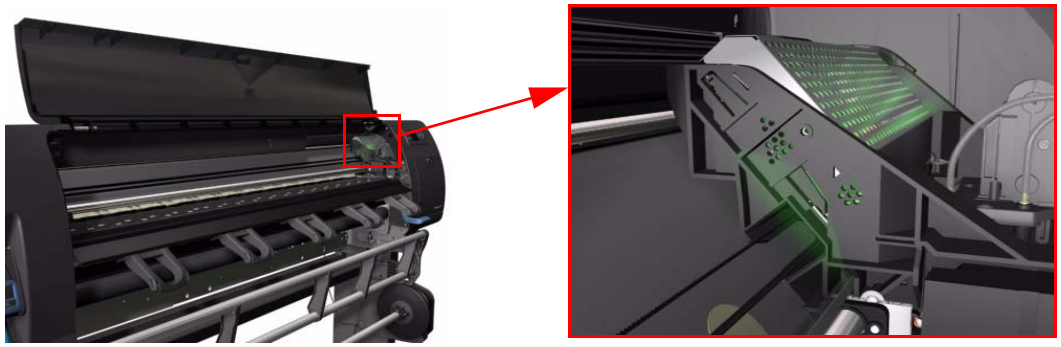
- Config GPIO drv_enable.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

3. After initializing the Scan-Axis system, the following message will appear on the Front Panel.




4. Open the Window, position your head as close as possible to the platen in order to check if the Carriage power light is ON (a very dim green light on the carriage PCA). Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection.



**NOTE:** To be able to see the LED, you have to place your head very close to the Platen but if you are not comfortable doing that you should remove the Right Cover before starting the test.

If you select **No** at this point, the Front Panel will display **System Error Code 02.1:10**. For more information on troubleshooting this error code, refer to page 48. Check also **System Error Code 11:10** (refer to page 51) or **System Error Code 07:10** (refer to page 50).

If you select **Yes**, then the Front Panel will display:

- Booting up the Carriage.

If there is a failure at this point, the Front Panel will display **System Error Code 02.1:10**. For more information on troubleshooting this error code, refer to page 48. Check also **System Error Code 11:10** (refer to page 51) or **System Error Code 01.1:10** (refer to page 47).

**Unit Hangs Up** - If no System error code is displayed on the Front Panel but the Printer hangs up and the last message on the Front Panel is "Booting up the Carriage" it means that the Carriage ASIC could not be detected. Troubleshoot this problem in the same way as if **System Error Code 02.1:10** had appeared**.**

5. Once the Carriage is booted up, the Service Station will be prepared and moved to a safe position so that the Carriage can be moved. During this process, the following information will be displayed on the Front Panel:

   - Starting SVS Motor.

   If there is a failure at this point, the Front Panel will display **System Error Code 21:12**. For more information on troubleshooting this error code, refer to page 52. Also, try to perform the Service Station Test (refer to page 116).

   **Unit Hangs Up** - If no System error code is displayed on the Front Panel but the Printer hangs up and the last message on the Front Panel is "Starting SVS Motor" it means that the SVS Motor could not be initialized. Troubleshoot this problem in the same way as if **System Error Code 21:12** had appeared**.**

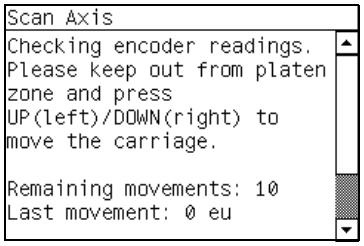
6. The Printer will program the duty cycle for the PWM test for the Scan-Axis Movement and leave it disabled and the following information will be displayed on the Front Panel:

   - Preparing SVS
   - Prog slow PWM scan.
   - Moving carriage middle.
   - Prog fast PWM scan.

   If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

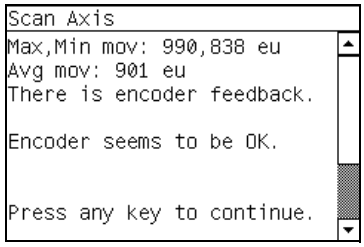
7. The Carriage will be moved to the middle of the Center Platen. If there is a failure in moving the Carriage, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

8. The printer will now check that it can read the Encoder Strip. When the following message appears on the Front Panel, open the Window and press the **Up** key to move the Carriage to the left and the **Down** key to move the Carriage to the right. Make sure that you move the Carriage in both directions and check that the Carriage actually moves when a key is pressed.




   If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47. If the Carriage only moves in one direction, troubleshoot the problem as **System Error Code 01.1:10** (refer to page 47).

9. At the end of 10 Carriage movements, the Front Panel will display the maximum and minimum length (in encoder units) of the 10 movements and the overall average.




   If Carriage movement has not been detected or if Carriage movement was very short, the Front Panel will ask you "Did the motor move?". If the answer is **Yes** (the Carriage had moved) press **Enter**. If the answer is No (the Carriage had not moved) press the **Back** key.

If you select **No** (the Carriage had not moved), the Front Panel will display **System Error Code 42:10**. For more information on troubleshooting this error code, refer to page 60. Check also **System Error Code 01.1:10** (refer to page 47) or **System Error Code 01.0:10** (refer to page 47).

If you select **Yes** (the Carriage had moved), the Front Panel will display **System Error Code 02:10**. For more information on troubleshooting this error code, refer to page 48. Check also **System Error Code 11:10** (refer to page 51) or **System Error Code 01.0:10** (refer to page 47).

If any max. or min. movement length is outside the ±20% average, then this warning message will be displayed on the Front Panel "Some movements out of avg. ±20% range: Intermittent movements. PWM test needed". This warning means that there is a mechanical problem in the Printer (Encoder Strip, friction, Carriage Belt, Slider Rod, etc...). Press any key to continue with the PWM test.

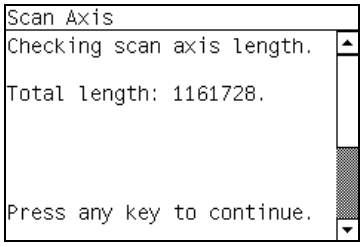
10. The Printer will now start to initialize the Scan-Axis servo and the Front Panel will display the following information:

    - Starting Carriage Motor.
    - Off/On Carriage Motor.
    - Doing a right side bump.
    - Doing a left side bump
    - Exit bump position.

    If there is a failure at this point, the Front Panel will display **System Error Code 86:10**. For more information on troubleshooting this error code, refer to page 74.

11. The Printer checks the complete length of the Scan-Axis and displays the result on the Front Panel. Depending on the printer size, length has to be between:

    - **1158629** and **1164616** for the 42inch
    - **1507858** and **1513844** for the 60inch




    If it is shorter, it means that there is an obstacle blocking the Scan-Axis path and the Front Panel will display **System Error Code 86:11**. For more information on troubleshooting this error code, refer to page 74.

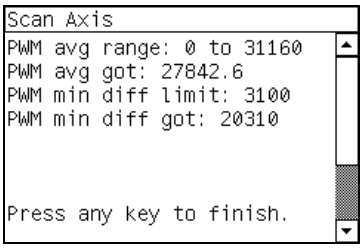
    If the length is longer, it means that the carriage has a datum broken or the Carriage Stopper is not installed and the Front Panel will display **System Error Code 02:10**. For more information on troubleshooting this error code, refer to page 48.

12. The Printer will now check the Scan-Axis PWM and the following information will be displayed on the Front Panel:

    - Starting Scan Axis.
    - PWM test.

    If there is a failure at this point, the Front Panel will display **System Error Code 86:10**. For more information on troubleshooting this error code, refer to page 74.

13. The Printer will test the PWM at 61 ips and display the results on the Front Panel.




If some of the results are incorrect, the Front Panel will show "High Friction". Depending on the actual results received, the following should be done:

- If **PWM avg got** is more than 32557 and **PWM min diff got** is less than 3100 then there is high friction along the Scan-Axis. In this case you should:
  - Clean the Slider Rods and Apply Oil along the complete axis of the Slider Rods. After applying the Oil, perform the test again.
  - Check that the Carriage Belt is installed correctly.
- If **PWM min diff got** is less than 3100 but **PWM avg got** is less than 32557 then there is a problem in the Scan-Axis. In this case you should:
  - Check that the Encoder Strip is clean. If necessary, clean Encoder Strip using a damp cloth.
  - Check that the Ink Supply Tubes and Trailing Cable is installed correctly.

  If there is a failure processing the PWM results, the Front Panel will display **System Error Code 86:11**. In this case try repeating the test again.

14. Once the test is completed, OK will be displayed on the Front Panel and then you will be prompted to press any key to shut down the Printer.

## 2. Paper Drive Test

The purpose of this test is to diagnose a failure in the operation of components related to the Paper Axis.

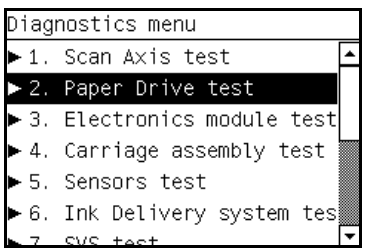
You must perform the Paper Drive Test after:

- System Error Code 81:YX.
- System Error Code 41:YX.
- System Error Code 73:YX.

**NOTE:** IF POSSIBLE ALWAYS PERFORM THIS TEST BEFORE REPLACING ANY COMPONENT OF THE MEDIA-AXIS.

Perform the Paper Drive test as follows:

1. In the Service Tests submenu, scroll to "2. Paper Drive test" and press **Enter**.




2. The Printer will start to initialize the Scan-Axis system and the Front Panel will display the following information:

- Starting Sausalito.
- Starting GpioPwmImpact.
- Set GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 48. Check also **System Error Code 01.0:10** (refer to page 47).

- Clear GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 48. Check also **System Error Code 01.0:10** (refer to page 47).

- Config GPIO drv_enable.

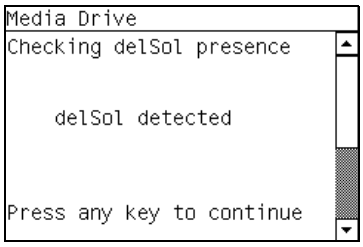
If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

- Starting Tests PWM
- Booting up the Carriage.

If there is a failure at this point, the Front Panel will display **System Error Code 02.1:10**. For more information on troubleshooting this error code, refer to page 48. Check also **System Error Code 11:10** (refer to page 51) or **System Error Code 01.1:10** (refer to page 47).

**Unit Hangs Up** - If no System error code is displayed on the Front Panel but the Printer hangs up and the last message on the Front Panel is "Booting up the Carriage" it means that the Carriage ASIC could not be detected. Troubleshoot this problem in the same way as if **System Error Code 02.1:10** had appeared**.**

3. The printer will now check for the presence on the Color Meter and the following will be displayed on the front panel:

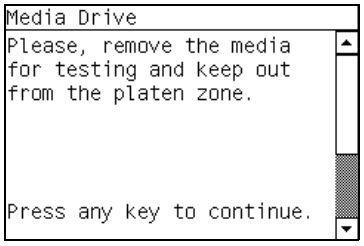



4. The Printer will program the duty cycle for the PWM test for the Paper Drive Movement and leave it disabled and the following message will be displayed on the Front Panel:

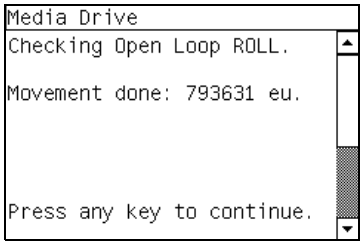
- Prog slow PWM paper.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

5. Before continuing, the following message will appear on the Front Panel. Remove the media if it is still loaded and make sure you stay out of the Print Platen area if the Window is open.

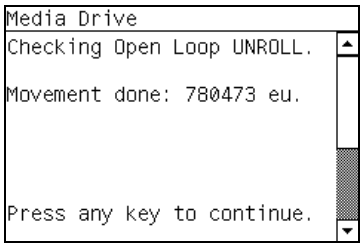



6. The Printer will now test the Paper Drive moving in an open loop in one direction and the following message will be displayed on the Front Panel. Press any key to continue the test:




Check that the movement done is more than 100 encoder units (in absolute value). If the movement done is less than 100 encoder units then open the Window and check for any visible obstacles restricting the movement of the Drive Roller or the Overdrive Assembly. In this case, press any key to finish the test.

7. The Printer will now test the Paper Drive moving in an open loop in the opposite direction and the following message will be displayed on the Front Panel. Press any key to continue the test:




Check that the movement done is **more** than 100 encoder units (in absolute value). If the movement done is **less** than 100 encoder units then open the Window and check for any visible obstacles restricting the movement of the Drive Roller or the Overdrive Assembly.

If the Encoder Units is **less** than 100, the Printer will request you to follow these instructions:

a. Manually load a sheet of paper in to the Printer (an A4 sheet).

b. The Printer will test the Paper Drive moving in an open loop.

c. Perform a visual check during the test. The Front Panel will ask you if the paper moved or not:

   – If the paper moved, the Front Panel will display **System Error Code 56:10**. For more information on troubleshooting this error code, refer to page 67.

   – If the paper **did not** move, the Front Panel will display **System Error Code 41:10**. For more information on troubleshooting this error code, refer to page 60.

8. The Printer will now check the Paper Drive servo system and the following messages will be displayed on the Front Panel:

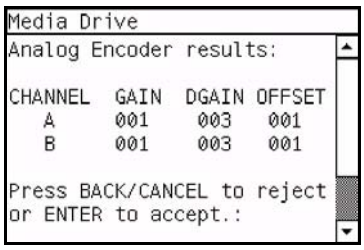
- Starting Paper Motor.
- Starting Paper Axis.

If there is a failure at this point, the Front Panel will display **System Error Code 81:10**. For more information on troubleshooting this error code, refer to page 73.

- Calib. Analog Encoder.

If there is a failure at this point, the Front Panel will display **System Error Code 56:03**. For more information on troubleshooting this error code, refer to page 67.

Once the Analog Encoder calibration is completed, the Front Panel will display the results:




Acceptable values are:

- Gain: between 0 and 5
- DGain between 0 and 15
- Offset: between -80 and 80

If the results are acceptable, press **Enter**. If the results are unacceptable, then press the **Back**/**Cancel** key and the Front Panel will display **System Error Code 56:10**. For more information on troubleshooting this error code, refer to page 67.

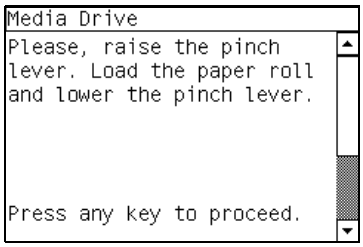
- Starting media Path.

If there is a failure at this point, the Front Panel will display **System Error Code 81:10**. For more information on troubleshooting this error code, refer to page 73.

- Homing and repeat. test.

If there is a failure at this point, the Front Panel will display **System Error Code 56:10**. For more information on troubleshooting this error code, refer to page 67.

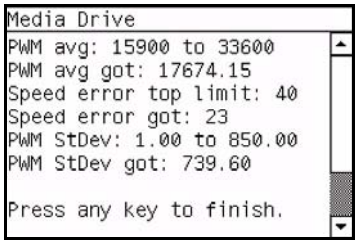
9. The Printer will now check the Paper Drive PWM. You must load media in to the Printer and press any key to continue the test.



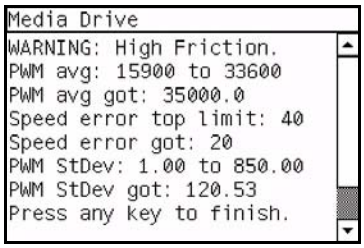

10. When the PWM check is being performed, the following message will be displayed on the Front Panel:

- PWM test with paper.

11. Once the PWM check is done, the results will be displayed on the Front Panel. Press any key to finish the test:


Media Drive
PWM avg: 15900 to 33600
PWM avg got: 17674.15
Speed error top limit: 40
Speed error got: 23
PWM StDev: 1.00 to 850.00
PWM StDev got: 739.60
Press any key to finish.

If there is a failure at this point, the Front Panel will display:


Media Drive
WARNING: High Friction.
PWM avg: 15900 to 33600
PWM avg got: 35000.0
Speed error top limit: 40
Speed error got: 20
PWM StDev: 1.00 to 850.00
PWM StDev got: 120.53
Press any key to finish.

12. Once the test is completed, OK will be displayed on the Front Panel and then you will be prompted to press any key to shut down the Printer.

## 3. Electronics Module Test

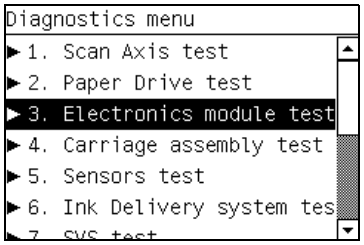
The purpose of this test is to diagnose a failure in the operation of the:

- Components of the Electronics Module.
- Electronics Module to Carriage and ISS Communication.

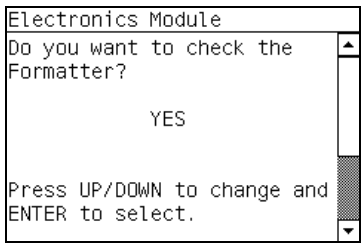
**NOTE:** This test does not test the EIO Card or the Hard Disk Drive.

Perform the Electronics Module test as follows:

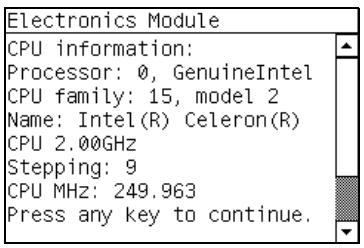
1. In the Service Tests submenu, scroll to "3. Electronics Module Test" and press **Enter**.



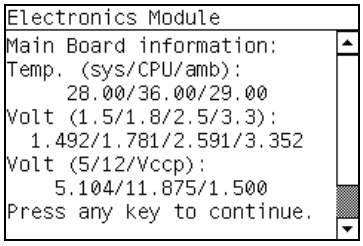

2. A message will appear on the Front Panel asking whether you would like to check the Formatter. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:



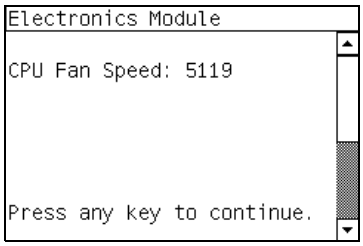

3. If you select **Yes**, the printer will get the CPU information and display the information on the Front Panel. Press any key to continue the test:



4. The printer will now get the Main Board (MB) information and display the information on the Front Panel. Press any key to continue the test:

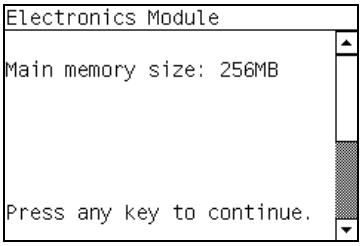



5. The printer will now get the CPU Fan Speed and display the information on the Front Panel. Press any key to continue the test:



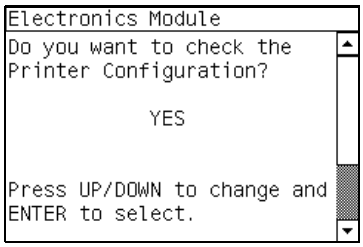

If the CPU Fan Speed is less than 2500, the Front Panel will display **System Error Code 05.1:10**. For more information on troubleshooting this error code, refer to page 49.

6. The printer will now calculate the amount of memory installed and display the information on the Front Panel. Press any key to continue the test:




A minimum of 256 megabytes of memory must be installed in the Printer. If not, the Front Panel will display **System Error Code 05.3:10**. For more information on troubleshooting this error code, refer to page 49.

7. A message will appear on the Front Panel asking whether you would like to check the Printer Configuration. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:

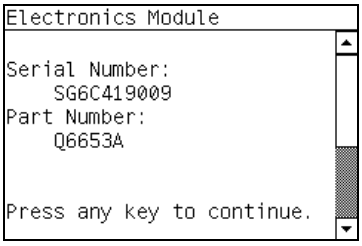



8. If you select **Yes**, the Printer will start the CDS and the following information will be displayed on the Front Panel:

- Starting CDS.

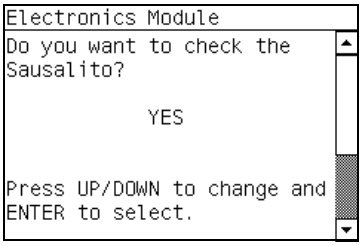
If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 72.

9. The printer will then check the Serial Number and Part Number and display the information on the Front Panel. Press any key to continue the test:




If the Serial Number does not have assigned a correct 10 character format or the Part number does not have assigned a correct 6 character format, a fail message will appear on the Front Panel. In this case, re-enter in to the Service Tests submenu and use the diagnostic "13. Error 71:19 Recovery" to set the correct Serial Number (refer to page 126).

10. A message will appear on the Front Panel asking whether you would like to check the Sausalito. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:

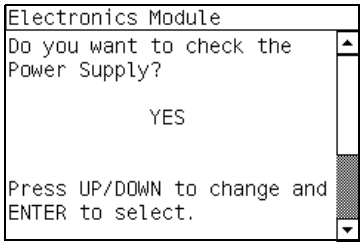



11. If you select **Yes**, the Printer will check the Sausalito PCI PCA and the following messages will be displayed on the Front Panel:

- Starting CDS
- Checking Sausalito PCI.
- Starting Sausalito.
- Checking Impact memory
- Checking Gauntlet memory.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

12. A message will appear on the Front Panel asking whether you would like to check the Power Supply. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:




13. If you select **Yes**, the Printer will check the Power Supply Unit and the following messages will be displayed on the Front Panel:

- Starting Sausalito.
- Starting Tests GPIO.
- Starting Tests Encoder.

If there is a failure at this point, the Front Panel will display **System Error Code XX.X:XX**. For more information on troubleshooting this error code, refer to page 47.

- Starting Vacuum Fans.

If there is a failure at this point, the Front Panel will display **System Error Code XX.X:XX**. For more information on troubleshooting this error code, refer to page 47.

- Set GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 48.

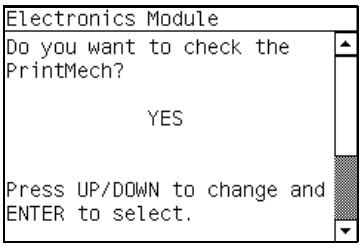
- Clear GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 48.

14. A message will appear on the Front Panel asking whether you would like to check the PrintMech. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:




15. If you select **Yes**, the Printer will check the PrintMech and the following messages will be displayed on the Front Panel:

- Starting Sausalito.
- Starting Tests GPIO.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

- Starting Tests Encoder.

If there is a failure at this point, the Front Panel will display **System Error Code XX.X:XX**. For more information on troubleshooting this error code, refer to page 47.

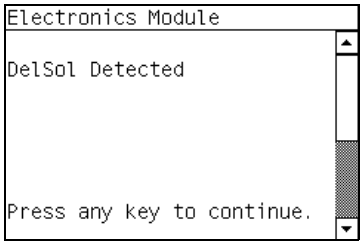
- Starting Vacuum Fans.

If there is a failure at this point, the Front Panel will display **System Error Code XX.X:XX**. For more information on troubleshooting this error code, refer to page 47.

- Checking delSOL presence.

If there is a failure at this point, the Front Panel will display **System Error Code XX.X:XX**. For more information on troubleshooting this error code, refer to page 47.

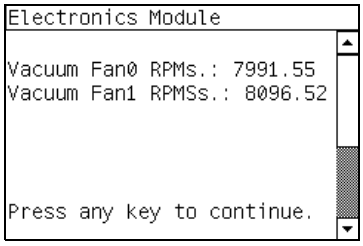
16. A message will appear on the Front Panel stating that the delSol has been detected and asking whether you would like to Continue. Press any key to continue:




If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

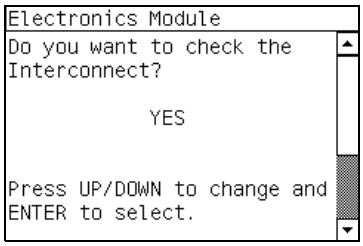
- Checking Vacuum Fans.
- Switching on Vacuum Fans.
- Testing Vacuum Fans.
- Switching off Vacuum Fans.

17. At this stage the Front Panel displays the results for the test of the vacuum fans and asks whether you would like to Continue. Press any key to continue:




If there is a failure at this point, the Front Panel will display either **System Error Code 01.0:10** or **System Error Code 01.1:10**. For more information on troubleshooting either of these error codes, refer to page 47.

18. A message will appear on the Front Panel asking whether you would like to check the Interconnect. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:




19. If you select **Yes**, the Printer will check the Interconnect PCA and the following messages will be displayed on the Front Panel:

- Starting CDS.

If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 72.

- Getting unit config.

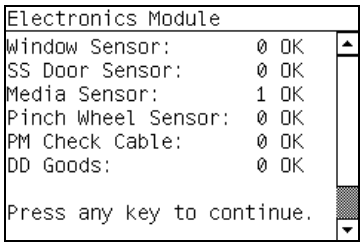
If the current Part Number is not in the correct 6 character format, the Front Panel will display a fail message. In this case, re-enter in to the Service Tests submenu and use the diagnostic "14.2 Error 71:19 Recovery" to set the correct Serial Number (refer to page 126).

- Starting Tests GPIO.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

- Checking GPIO channels.

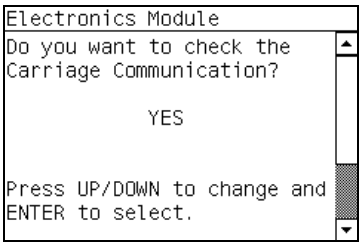
At this stage, the Printer reads and checks the default GPIO values in the Interconnect PCA when all the cables are connected and all the sensors give the default value or the current state. The results will be displayed on the Front Panel and you can press any key to scroll through the information.


Electronics Module
Window Sensor: 0 OK
SS Door Sensor: 0 OK
Media Sensor: 1 OK
Pinch Wheel Sensor: 0 OK
PM Check Cable: 0 OK
DD Goods: 0 OK
Press any key to continue.

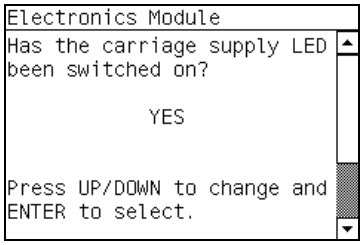
If any of the channels cannot be read, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

If any of the read values do not match the expected default, the Front Panel will display **System Error Code 07:10**. For more information on troubleshooting this error code, refer to page 50.

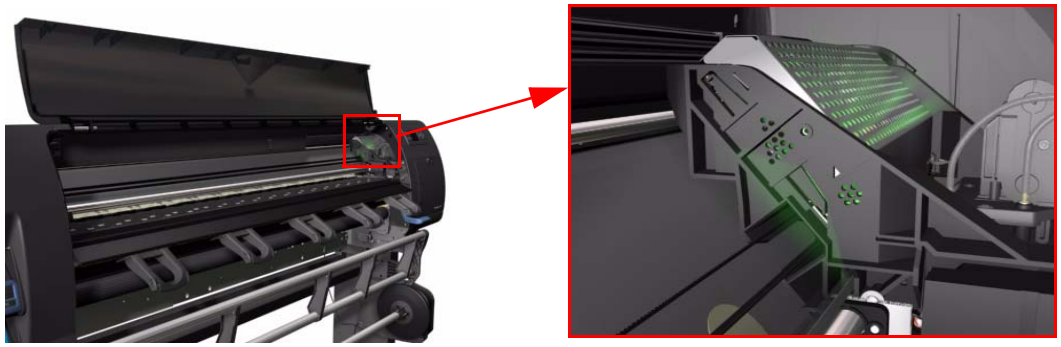
20. A message will appear on the Front Panel asking whether you would like to check the Carriage Communication. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:




21. If you select **Yes**, the following message will appear on the Front Panel:




22. Open the Window, position your head as close as possible to the platen in order to check if the Carriage power light is ON (a green light on the carriage PCA). Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection.



**NOTE:** To be able to see the LED, you have to place your head very close to the Platen but if you are not comfortable doing that you should remove the Right Cover before starting the test.

If you select **No** at this point, the Front Panel will display **System Error Code 07:10**. For more information on troubleshooting this error code, refer to page 50. Check also **System Error Code 11:10** (refer to page 51) or **System Error Code 02.1:10** (refer to page 48).

If you select **Yes**, then the Front Panel will display:

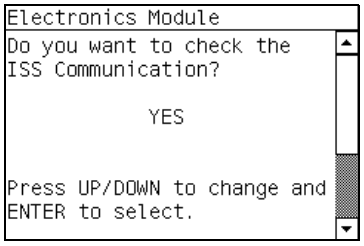
- Starting Carriage.

If there is a failure at this point, the Front Panel will display **System Error Code 02.1:10**. For more information on troubleshooting this error code, refer to page 48. Check also **System Error Code 11:10** (refer to page 51) or **System Error Code 01.0:10** (refer to page 47).

- Checking Carriage rev.

If there is a failure at this point, the Front Panel will display **System Error Code 02.1:10**. For more information on troubleshooting this error code, refer to page 48. Check also **System Error Code 11:10** (refer to page 51).

23. A message will appear on the Front Panel asking whether you would like to check the ISS Communication. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:



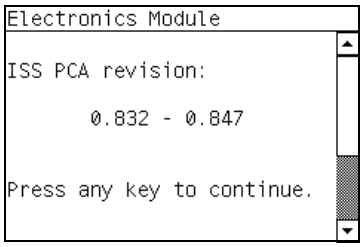

24. If you select **Yes**, the Printer will check the ISS Communication and the following information will be displayed on the Front Panel:

- Starting Sausalito.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

- Checking ISS PCA rev.

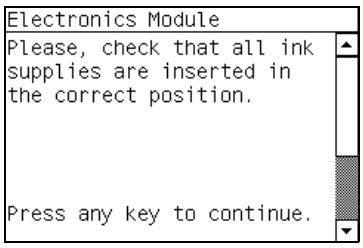
At this stage, the Front Panel displays the value for the ISS PCA revision and asking whether you would like to Continue. Press any key to continue:.




If any of the channels cannot be read, the Front Panel will display **System** The value for the ISS PCA revision must be more than **0.832**, if not the Front Panel will display **System Error Code 01.2:10**. For more information on troubleshooting this error code, refer to page 48. Check also **System Error Code 01.0:10** (refer to page 47)

If there is a problem in reading the values, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

25. When the Front Panel displays the following message, check that all the Ink cartridges are correctly installed. Press any key to continue.




26. The Printer will continue with the ISS Communication test and the following messages will be displayed on the Front Panel:

    - Starting ISS Ink Sup.

    If there is a failure at this point, the Front Panel will display **System Error Code 01.2:10** (refer to page 48) or **System Error Code 01.0:10** (refer to page 47).

    - Getting ISS data.
    - Checking ISS Ink Sup.

27. Once the test is completed, OK will be displayed on the Front Panel.

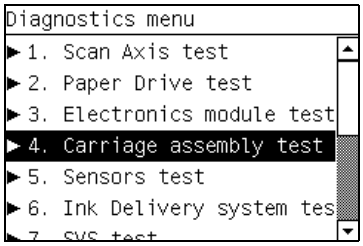
## 4. Carriage Assembly Test

The purpose of this test is to verify the operation of the Carriage Assembly.

**NOTE:** IF POSSIBLE ALWAYS PERFORM THIS TEST BEFORE REPLACING THE CARRIAGE ASSEMBLY. IF THIS TEST PASSES, DO NOT REPLACE THE CARRIAGE ASSEMBLY.

Perform the Carriage Assembly test as follows:

1. In the Service Tests submenu, scroll to "4. Carriage Assembly Test" and press **Enter**.




2. This test has not yet been implemented.

## 5. Sensors Test

The purpose of this test is to verify the operation of the following Sensors:

- Window Position Sensor.
- Media Lever.
- Maintenance Cartridge Door Sensor.

- Paper Sensor.

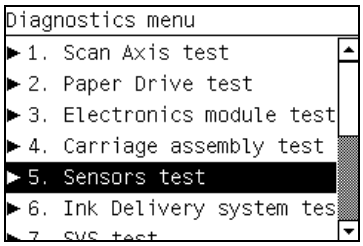
**NOTE:** IF POSSIBLE ALWAYS PERFORM THIS TEST BEFORE REPLACING RELEVANT SENSOR. IF THIS TEST PASSES, DO NOT REPLACE THE RELEVANT SENSOR.

Perform the Sensors test as follows:

1. Before starting, first make sure that:
   - The Window is closed.
   - The Maintenance Cartridge Door is closed.
   - The Media Lever is in the lowered position.
   - Paper is unloaded.

**NOTE:** If there is a failure in reading the GPIO channel during any of the steps of this test, the Front Panel will display System Error Code 01.0:10. For more information on troubleshooting this error code, refer to Page 2-5. Check also System Error Code 07:10 (refer to Page 2-8).

2. In the Service Tests submenu, scroll to "5. Sensors Test" and press **OK**.




3. The Printer will initialize the sensors and the Front Panel will display the following messages:
   - Starting Sausalito.

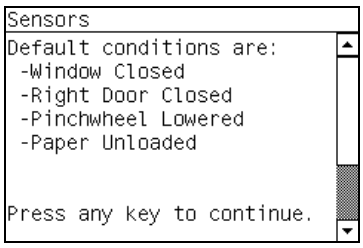
   If there is a failure starting the Sausalito, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.
   - Starting Tests GPIO.

   If there is a failure starting the GPIO tests, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.
   - Starting Cds.

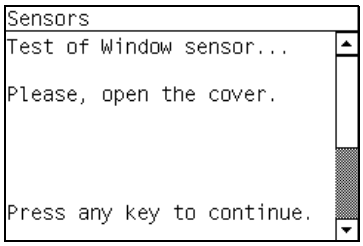
   If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 72.
   - Getting unit config.
   - Checking unit config.

   If there is a failure at this point, the Front Panel will display **System Error Code 71:19**. For more information on troubleshooting this error code, refer to page 70.

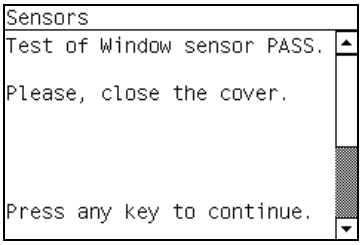
4. Before starting to test the sensors, the following message will be displayed to prompt the user to set the sensors to the test default positions. Press any key to continue:




5. The Window Sensor will be tested first. When the following message is displayed on the Front Panel, open the Window and press any key to continue.

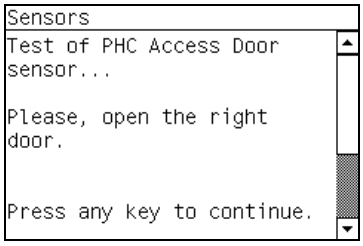



6. If the Window Sensor passes the test, the following message is displayed on the Front Panel. Close the Window and press any key to continue.

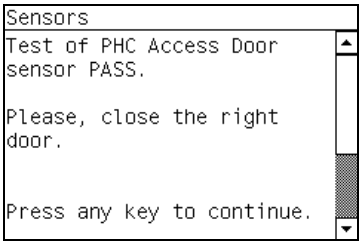



If the Window Sensor fails the test, the Front Panel will display **System Error Code 51:10**. For more information on troubleshooting this error code, refer to page 65. Check also **System Error Code 07:10** (refer to page 50).

7. The Maintenance Cartridge Door Sensor will be tested next. When the following message is displayed on the Front Panel, open the Maintenance Cartridge Door Sensor and press any key to continue.

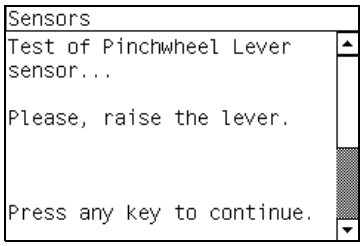



8. If the Maintenance Cartridge Door Sensor passes the test, the following message is displayed on the Front Panel. Maintenance Cartridge Door Sensor and press any key to continue.

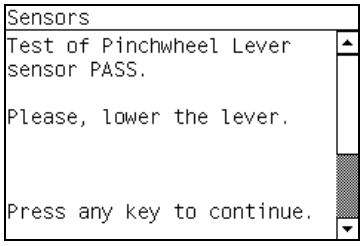



If the Maintenance Cartridge Door Sensor fails the test, the Front Panel will display **System Error Code 51.1:10**. For more information on troubleshooting this error code, refer to page 65. Check also **System Error Code 07:10** (refer to page 50).

9. The Media Lever Sensor will be tested next. When the following message is displayed on the Front Panel, raise the Paper Lever and press any key to continue.

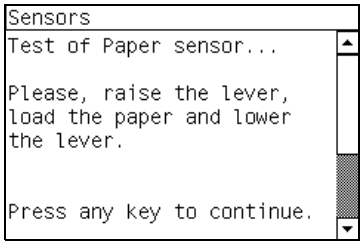



10. If the Media Lever Sensor passes the test, the following message is displayed on the Front Panel. Lower the Paper Lever and press any key to continue.

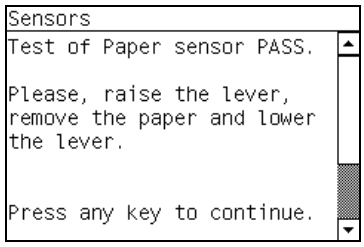



If the Paper Lever Sensor fails the test, the Front Panel will display **System Error Code 54:10**. For more information on troubleshooting this error code, refer to page 67. Check also **System Error Code 07:10** (refer to page 50).

11. The Media Sensor will be tested next. When the following message is displayed on the Front Panel, raise the Media Lever, load paper, lower the Media Lever, and press any key to continue.




12. If the Media Sensor passes the test, the following message is displayed on the Front Panel, raise the Media Lever, unload paper, lower the Media Lever, and press any key to continue.




If the Paper Lever Sensor fails the test, the Front Panel will display **System Error Code 53:10**. For more information on troubleshooting this error code, refer to page 66. Check also **System Error Code 07:10** (refer to page 50).

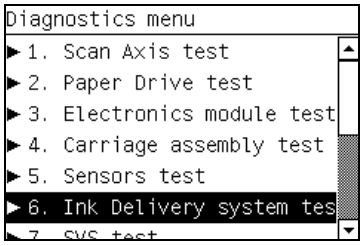
13. IOnce the test is completed, OK will be displayed on the Front Panel.

## 6. Ink Delivery System Test

The purpose of this test is to verify the operation of the Ink Delivery System.

Perform the Ink Delivery System test as follows:

1. In the Service Tests submenu, scroll to “6. Ink Delivery System Test” and press **Enter**.



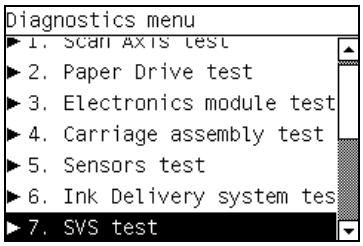

2. This test has not yet been implemented.

## 7. SVS Test

The purpose of this test is to verify the operation of the Service Station.

Perform the SVS test as follows:

1. In the Service Tests submenu, scroll to “7. SVS Test” and press **Enter**.




2. This test has not yet been implemented.

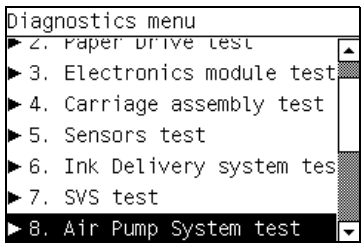
## 8. Air Pump System Test

The purpose of this test is to verify the operation of the Air Pressurization System (APS).

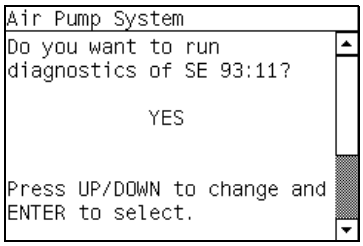
**NOTE:** IF POSSIBLE ALWAYS PERFORM THIS TEST BEFORE REPLACING THE APS. IF THIS TEST PASSES, DO NOT REPLACE THE APS.

Perform the Air Pump System test as follows:

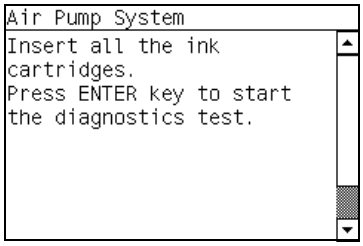
1. In the Service Tests submenu, scroll to “8. Air Pump System Test” and press **Enter**.



2. A message will appear on the Front Panel asking whether you would like to check the APS. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:




3. A message will appear on the Front Panel asking you to insert all the Ink Cartridges. Insert all the Ink Cartridges and press any key to continue:




4. The Printer will initialize the APS and the Front Panel will display the following messages:

   - Starting Nvm.
   - Starting Cds.

   If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 72.

   - Starting Sausalito.

   If there is a failure starting the Sausalito, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

   - Starting SuppliesConf.

   If there is a failure starting the SuppliesConf, the Front Panel will display **System Error Code XX.X:XX**. For more information on troubleshooting this error code, refer to page 47.

   - Starting Pump.

   If there is a failure starting the Pump, the Front Panel will display **System Error Code XX.X:XX**. For more information on troubleshooting this error code, refer to page 47.

5. The Printer will pressurize the APS and the Front Panel will display the following messages:

   - Pressurizing.
     Followed by the actual pressure as the APS pressurizes.
   - Holding Pressure.
     Followed by the actual pressure being held.
   - Depressurizing.

   If there is a failure starting the Pump, the Front Panel will display **System Error Code XX.X:XX**. For more information on troubleshooting this error code, refer to page 47.

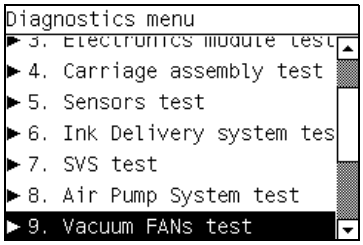
6. IOnce the test is completed, OK will be displayed on the Front Panel.

## 9. Vacuum Fans Test

The purpose of this test is to verify the operation of the Vacuum Fans.

Perform the Vacuum Fans test as follows:

1. In the Service Tests submenu, scroll to "9. Vacuum Fans Test" and press **Enter**.


Diagnostics menu
▶ 3. Electronics module test
▶ 4. Carriage assembly test
▶ 5. Sensors test
▶ 6. Ink Delivery system tes
▶ 7. SVS test
▶ 8. Air Pump System test
▶ 9. Vacuum FANs test

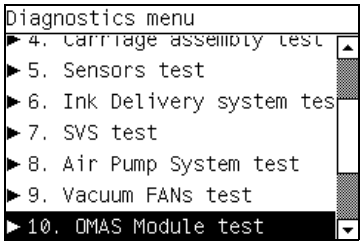
2. This test has not yet been implemented.

## 10. OMAS Module Test

The purpose of this test is to verify the operation of the Optical Paper Advance Sensor (OMAS) system.

Perform the OMAS test as follows:

1. In the Service Tests submenu, scroll to "10. OMAS Test" and press **Enter**.


Diagnostics menu
▶ 4. Carriage assembly test
▶ 5. Sensors test
▶ 6. Ink Delivery system tes
▶ 7. SVS test
▶ 8. Air Pump System test
▶ 9. Vacuum FANs test
▶ 10. OMAS Module test

2. This test has not yet been implemented.

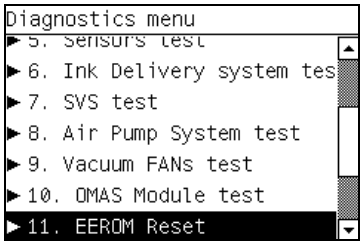
## 11 EEROM Reset

The purpose of this diagnostic is to reset the EEROM values.

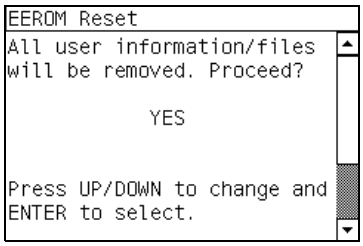
**NOTE:** Once the EEROM has been reset, the Printer will act as if it is being started for the first time, except that the Ink Supply Tubes have already been primed.

Perform an EEROM Reset as follows:

1. In the Service Tests submenu, scroll to "11. EEROM Reset" and press **Enter**.


Diagnostics menu
▶ 5. Sensors test
▶ 6. Ink Delivery system tes
▶ 7. SVS test
▶ 8. Air Pump System test
▶ 9. Vacuum FANs test
▶ 10. OMAS Module test
▶ 11. EEROM Reset

2. A message will appear on the Front Panel advising you that all user information/files will be removed. If you would like to proceed select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the process will end at this point.




3. If you select **Yes**, the Printer will begin the process to reset the EEROM and the following messages will appear on the Front Panel:

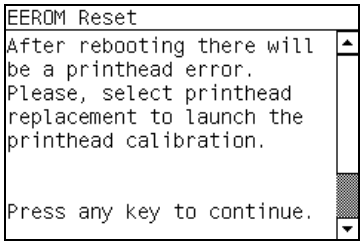
   - Starting Sausalito.

   If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

   - Starting NVM.
   - Setting default config.
   - Restoring tubes state.

   If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 72.

4. Once the EEROM has been reset, the following message will appear on the Front Panel. Press any key to continue.


EEROM Reset
After rebooting there will be a printhead error. Please, select printhead replacement to launch the printhead calibration.
Press any key to continue.

**NOTE:** After rebooting the Printer, make sure you select Printhead replacement through the Front Panel in order to launch the Printhead calibration.

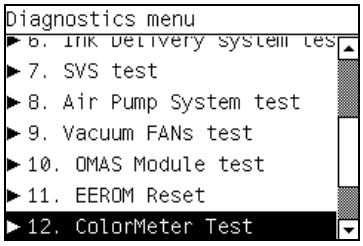
5. Once the process is completed, OK will be displayed on the Front Panel.

## 12. Color Sensor Test

The purpose of this test is to troubleshoot the specific error related to the Color Sensor Test. The test checks that the cover of color sensor is correctly opening and closing, and if the color sensor is correctly measuring the dark area of the drop detector. We do not recommend using this test to measure the white of media, as there is a high risk of a jam occuring due to the vacuum in the paper path being turned off during the test, to test this use the test shown on page 148.

Perform the Color Sensor test as follows:

1. In the Service Tests submenu, scroll to "12. Color Sensor Test" and press **Enter**.




2. The Printer will initialize the Color Sensor and the Front Panel will display the following messages:

   - Starting Sausalito.

   If there is a failure starting the Sausalito, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

   - Starting Carriage.

   If there is a failure at this point, the Front Panel will display **System Error Code 02.1:10**. For more information on troubleshooting this error code, refer to page 48. Check also **System Error Code 11:10** (refer to page 51) or **System Error Code 01.0:10** (refer to page 47).

   - Starting Nvm.
   - Getting Part Number.

   If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 72.

   - Getting Scan Axis Size.

   If there is a failure at this point, the Front Panel will display **System Error Code xx:xx**. For more information on troubleshooting this error code, refer to page 72.

   - Starting Service Station.

   If there is a failure at this point, the Front Panel will display **System Error Code 21:10**. For more information on troubleshooting this error code, refer to page 52.

   - Starting Scan Axis.

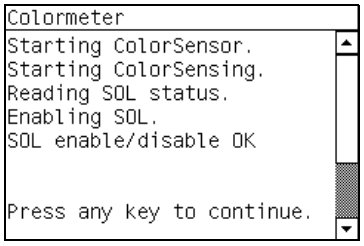
   If there is a failure at this point, the Front Panel will display **System Error Code 42:10**. For more information on troubleshooting this error code, refer to page 60.

   - Homing Scan Axis.

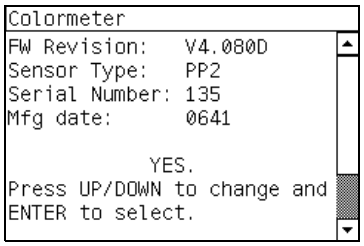
   If there is a failure at this point, the Front Panel will display **System Error Code 42:10**. For more information on troubleshooting this error code, refer to page 60.

   - Homing Service Station.
   - Moving Carriage out of Service Station path.
   - Starting Servicing Services.
   - Starting Color Sensor.
   - Starting Color Sensing.
   - Reading SOL status.

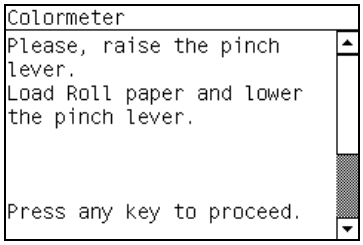
3. The following message is displayed on the Front Panel, press any key to continue.



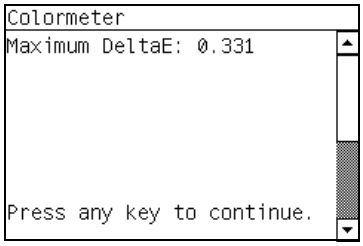

4. The Color Sensor information is read and the following message is displayed on the Front Panel, press any key to continue.




5. When the following message is displayed on the Front Panel, raise the Media Lever, load paper, lower the Media Lever, and press any key to continue.




6. The Printer will read the Red Reference and the Front Panel will display the following messages:
   - Starting ColorSensor…
   - Starting ColorSensing
   - Reading SOL Status
   - Reading Registers
   - Switching on fans
   - Performing Calibration…
   - Uncapping SVS
   - Reading Red Reference
7. The Front Panel then displays the deltaE value, press any key to continue.



8. Once the test is completed, OK will be displayed on the Front Panel.

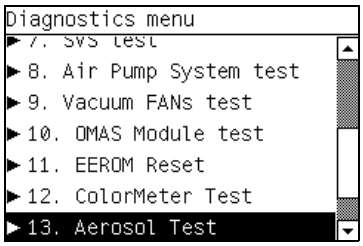
**NOTE:** If the customer reports color issues even through the test has passed, perform the Spectrophotometer test on page 148.

## 13. Aerosol Test

The purpose of this test is to verify the operation of the Color Sensor.

Perform the Aerosol test as follows:

1. In the Service Tests submenu, scroll to "13. Aerosol Test" and press **Enter**.




2. This test has not yet been implemented.

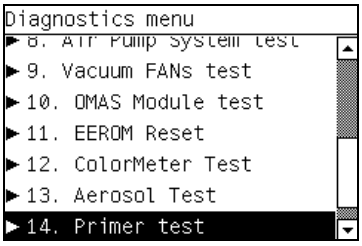
## 14. Primer Test

The purpose of this test is to prime a specified Printhead.

**NOTE:** IF POSSIBLE ALWAYS PERFORM THIS TEST BEFORE REPLACING THE PRIMER. IF THIS TEST PASSES, DO NOT REPLACE THE PRIMER.

Perform the Primer test as follows:

1. In the Service Tests submenu, scroll to "14. Primer Test" and press **Enter**.




2. The Printer will start the Primer test and the Front Panel will display the following messages:

   - Starting Sausalito.

   If there is a failure starting the Sausalito, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

   - Starting GpioPwmImpact.

   If there is a failure starting the SuppliesConf, the Front Panel will display **System Error Code XX.X:XX**. For more information on troubleshooting this error code, refer to page 47.

   - Set GPIO psu_lpm.

   If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 48.

- Clear GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 48.

- Config GPIO drv_enable.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

- Starting Service Station.

If there is a failure at this point, the Front Panel will display **System Error Code 21:10**. For more information on troubleshooting this error code, refer to page 52.

- Starting Scan Axis.

If there is a failure at this point, the Front Panel will display **System Error Code 42:10**. For more information on troubleshooting this error code, refer to page 60.

- Starting Primer.

If there is a failure at this point, the Front Panel will display **System Error Code XX:XX**. For more information on troubleshooting this error code, refer to page 60.

- Homing Primer.

If there is a failure at this point, the Front Panel will display **System Error Code XX:XX**. For more information on troubleshooting this error code, refer to page 60.

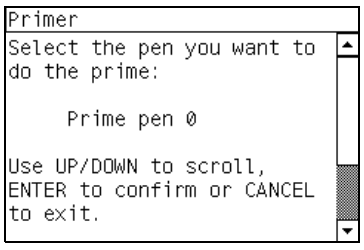
- Homing Service Station.

If there is a failure at this point, the Front Panel will display **System Error Code 21:10**. For more information on troubleshooting this error code, refer to page 52.

- Homing Scan Axis.

If there is a failure at this point, the Front Panel will display **System Error Code XX:XX**. For more information on troubleshooting this error code, refer to page 60.

3. Once the Primer has initialized a message will appear on the Front Panel asking which pen you want to prime. Select the pen number (0 to 7) by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:




4. The Printer will prime the selected pen and the Front Panel will display the following messages:

- Setting pens operational.
- Preparing fluid manager.
- Priming...
- Terminating fluid manager.

- Allowing pens not operational.

If there is a failure at this point, the Front Panel will display the corresponding error message (**Error: Setting Pens operational** or **Error: Allowing pens not operational**.

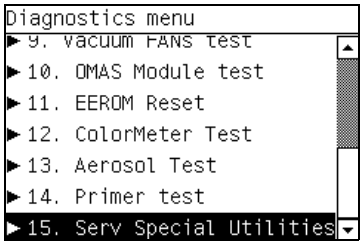
5. Once the test is completed, OK will be displayed on the Front Panel.

## 15.1 Service Special Utilities >>> Bag Broken Recovery

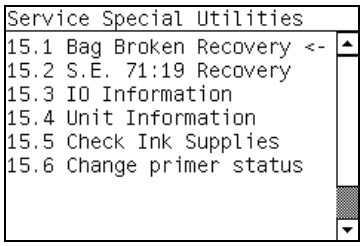
This option allows to recover the Printer from a Bag Broken error.

Perform the Bag Broken Recovery as follows:

1. In the Service Tests submenu, scroll to "15. Service Special Utilities" and press **Enter**.




2. In the Service Special Utilities submenu, scroll to "15.1 Bag Broken Recovery" and press **Enter**.




3. The Printer will start to initialize and the Front Panel will display the following messages:
   - Starting Gamut.
   - Starting TestGPIO.
4. The Printer will now scan for a broken bag in the Ink Cartridges and the Front Panel will display the following messages:
   - Detecting Bag Broken.

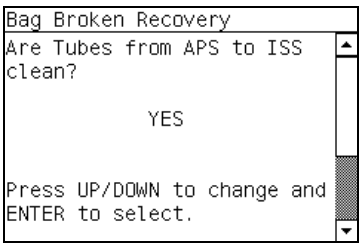
   If the Printer does not detect that any of the Ink cartridges have a broken bag, then the message "No ink short detected on supplies" will be displayed on the Front Panel, go to step 10.

   If there is a problem while reading the Broken bag signal, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.
5. If the Printer detects that one or more of the Ink Cartridges have a broken bag, then the message "Please, replace one of the defective cartridges (0-7) and press any key to continue" will be displayed on the Front Panel. The number(s) displayed identify which ink cartridge has failed:

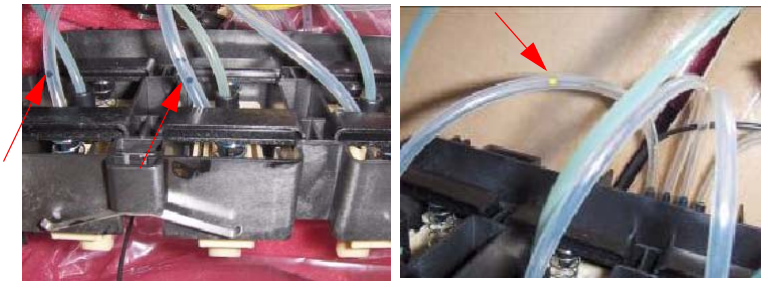
| Number displayed | Ink Cartridge Color Failed |
|---|---|
| 0 | Magenta |
| 1 | Light Magenta |
| 2 | PhotoBlack |
| 3 | Matt Black |
| 4 | Yellow |
| 5 | Light Cyan |

| | |
|---|---|
| 6 | Light Gray |
| 7 | Cyan |

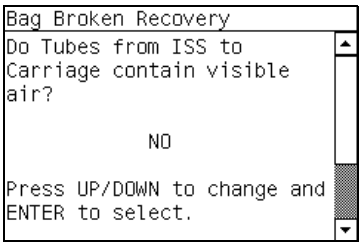
6. Remove the failing Ink Cartridge as indicated by the Front Panel and install a new Ink Cartridge.
7. The front panel will display the **System Error Code 01.2:10,** turn Off and On the printer.
8. Repeat steps 1 & 2.
9. The Printer scans again for a Bag Broken error, if the error has been cleared the message "No Broken Bag detected on supplies" will be displayed on the Front Panel.
10. If no Ink Cartridges have been identified with the Bag Broken issue, the Front Panel will display a series of questions which you answer 'Yes' or 'No' depending on the status of the ink system. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection.



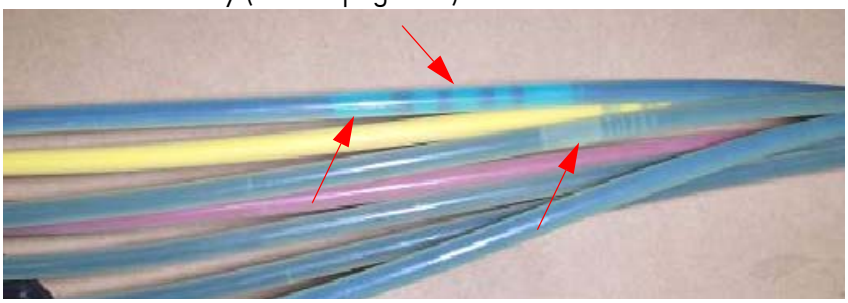

Remove the Left Cover and check if the tubes from the APS to the ISS are clean. If the tubes are clean of ink select the **Yes** option, however if there are sections of tubing that have ink in them, like the examples indicated below with the red arrows, select the **No** option and replace the SRK tubes (refer to page 312).



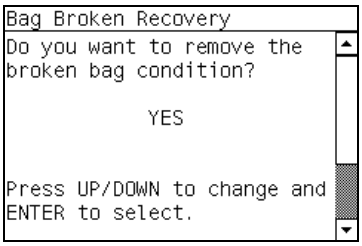
11. If you select **Yes**, the following message will be displayed on the Front Panel.




Check the Ink Supply Tubes from the ISS to the Carriage, if the tubes do not have air bubbles, or any clear sections of tubing where air is present mixed with ink, then select the **No** option, however if you can see air in them, like the examples indicated below with red arrows, select the **Yes** option and replace the SRK assembly (refer to page 312).



12. If you select **No**, the following message will appear on the Front Panel. You can now remove the Broken Bag condition causing the initial problem. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection.




13. If you select Yes, the following messages will appear on the Front Panel:

    - Start Supplies Conf.

    If there is a problem at this stage, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

    - Removing leakage.

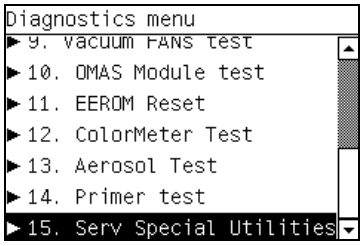
14. Once the process is completed, OK will be displayed on the Front Panel.

## 15.2 Service Special Utilities >>> Error 71:19 Recovery

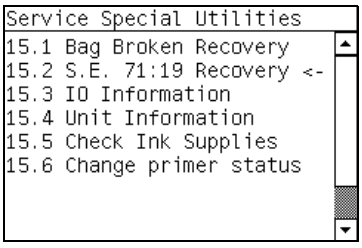
The purpose of this utility is to set the Serial Number and Part Number in case both the Hard Disk Drive and the Ink Supply Tubes are replaced at the same time.

Set the Serial Number as follows:

1. In the Service Tests submenu, scroll to "15. Service Special Utilities" and press **Enter**.


Diagnostics menu
▶ 9. Vacuum FANs test
▶ 10. OMAS Module test
▶ 11. EEROM Reset
▶ 12. ColorMeter Test
▶ 13. Aerosol Test
▶ 14. Primer test
▶ 15. Serv Special Utilities

2. In the Service Special Utilities submenu, scroll to "15.2 Error 71:19 Recovery" and press **Enter**.




3. The Printer will check if the System Error Code 71:19 has been recorded and the following message will appear on the Front Panel:

    - Checking SE log.

    If the Printer fails to find the System Error Code 71:19, the Front Panel will display **Error: Utility not available**. In this case press any key to exit.

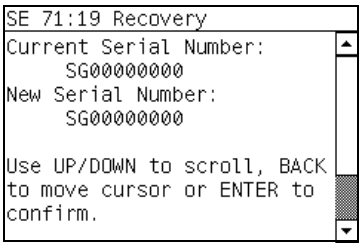
4. If System Error Code is detected, the Printer will start the recovery procedure and the following messages will be displayed on the Front Panel:

    - Starting NvmBackup.
    - Starting NvmMain.

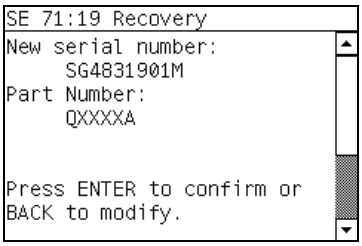
- Getting Serial Number.
- Checking Serial Number.
- Starting Nvm.
- Getting Part Number.

If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 72.

5. The Printer will display the current Serial Number and the new Serial Number of the Printer. Use the **Up** and **Down** keys to go through the digits and press the **Enter** key to go to the next digit. You can press the **Cancel** key at any time to exit the utility without making any changes.

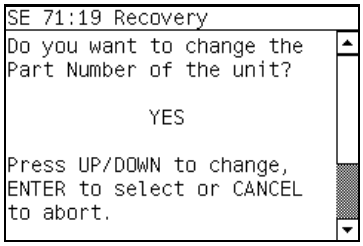



6. Once the new Serial Number has been entered, the Front Panel will display the Serial Number and Model Number of the Printer. Press the **Enter** key to confirm the Serial Number or the **Cancel** key to exit the utility without making any changes.




If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 72.

7. A message will appear on the Front Panel asking you if you would like to change the Part Number of the Printer. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the process will end at this point.


SE 71:19 Recovery
Do you want to change the Part Number of the unit?
YES
Press UP/DOWN to change, ENTER to select or CANCEL to abort.

8. If you select **Yes**, the Front Panel will display the new Serial Number and Part Number. Press the **Enter** key to accept.

   If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 72.

9. Once the process is completed, OK will be displayed on the Front Panel.

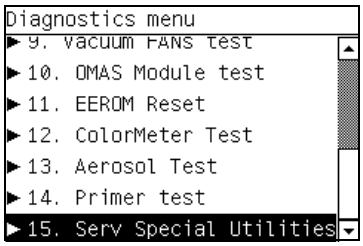
**NOTE:** Once the Printer has recovered from the System Error Code 71:19, it will be configured as HP Designjet Z6100

## 15.3 Service Special Utilities >>> IO Information

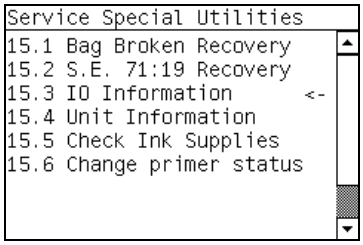
This option allows you to view the information relating to the IO.

View the IO Information as follows:

1. In the Service Tests submenu, scroll to "15. Service Special Utilities" and press **Enter**.



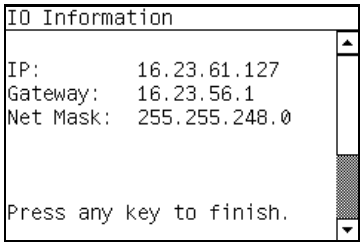

2. In the Service Special Utilities submenu, scroll to "15.3 IO Information "and press **Enter**.




3. The Printer will start to initialize and the Front Panel will display the following messages:
   - Getting IO Interface.
   - Getting Interface info.

   If there is a failure at this point, the Front Panel will display an error.

   If no active interface is found, the Front Panel will display "No active interface found. Press any key to finish".
4. Once the IO information is obtained, it is displayed on the Front Panel. Press any key to exit.




5. Once the process is completed, OK will be displayed on the Front Panel.

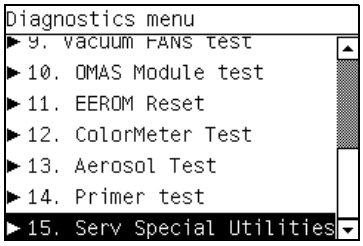
## 15.4 Service Special Utilities >>> Unit Information

This option allows you to view the following Printer information:

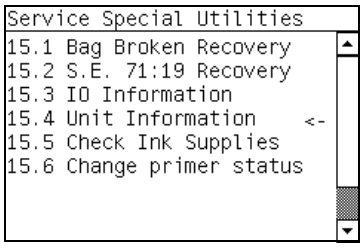
- Firmware version.
- Serial Number.
- Part Number.
- PS Language (for HP Designjet Z6100)

View the Unit Information as follows:

1. In the Service Tests submenu, scroll to "15. Service Special Utilities" and press **Enter**.




2. In the Service Special Utilities submenu, scroll to "15.4 Unit Information "and press **Enter**.




3. The Printer will start to initialize and the Front Panel will display the following messages:

   - Starting Nvm.
   - Getting FW version.
   - Getting Serial Number
   - Getting Part Number.

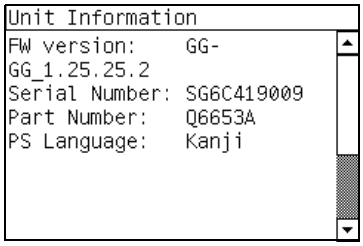
   If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 72.

   If the Serial Number does not have assigned a correct 10 character format or the Part number does not have assigned a correct 6 character format, a fail message will appear on the Front Panel. In this case, re-enter in to the Service Tests submenu and use the diagnostic "15.2 Error 71:19 Recovery" to set the correct Serial Number (refer to page 126).

   - Getting PS Language (for HP Designjet 4000PS).

   If there is a failure at this point, the Front Panel will display an error.

4. Once the Unit information is obtained, it is displayed on the Front Panel. Press any key to exit.



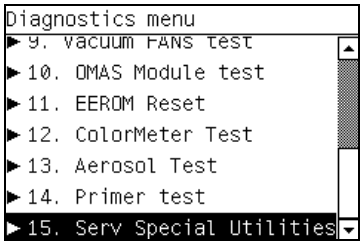

5. Once the process is completed, OK will be displayed on the Front Panel.

## 15.5 Service Special Utilities >>> Check Ink Supplies

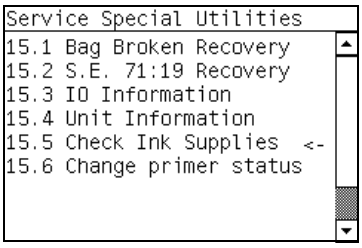
The purpose of this test is to verify which Ink Cartridges are valid for the purge process and their current available ink level. Some Ink Cartridges may not be able to be accessed (unable to read the Acumen) if previously there had been a failure (faulty, broken bag, etc...).

Check the ink supplies as follows:

1. In the Service Tests submenu, scroll to "15. Service Special Utilities" and press **Enter**.


Diagnostics menu
▶ 9. Vacuum FANS test
▶ 10. OMAS Module test
▶ 11. EEROM Reset
▶ 12. ColorMeter Test
▶ 13. Aerosol Test
▶ 14. Primer test
▶ 15. Serv Special Utilities

2. In the Service Special Utilities submenu, scroll to "15.5 Check Ink Supplies" and press **Enter**.




3. The Printer will start to initialize and the Front Panel will display the following messages:

   - Starting Sausalito.

   If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 47.

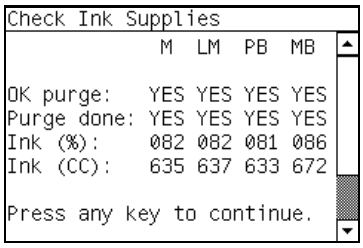
   - Starting AcumenSupplies.

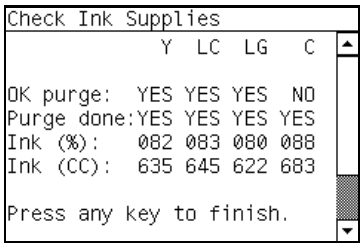
   If there is a problem while reading the Acumen, the Front Panel will display **System Error Code 26.n:10**. For more information on troubleshooting this error code, refer to page 53. **System Error Code 01.2:10** (refer to page 48) or **System Error Code 01.0:10** (refer to page 47).

   - Reading Ink Supplies.

   If there is a failure at this point, the Front Panel will display the message "Replace failing ink supplies after running this utility".

4. Once the Ink Supplies information is obtained, it is displayed. Press any key to exit.


Check Ink Supplies
M LM PB MB
OK purge: YES YES YES YES
Purge done: YES YES YES YES
Ink (%): 082 082 081 086
Ink (CC): 635 637 633 672
Press any key to continue.


Check Ink Supplies
Y LC LG C
OK purge: YES YES YES NO
Purge done:YES YES YES YES
Ink (%): 082 083 080 088
Ink (CC): 635 645 622 683
Press any key to finish.

   If any part of the Acumen information is invalid, the Front Panel will display an error.

5. Once the process is completed, OK will be displayed on the Front Panel.

## Emergency Firmware Upgrade

The following procedure can be used if the printer cannot be turned on in normal mode because of an error, or if the EWS has been disabled in the Front Panel. This procedure can only be performed when the printer is in the Service Utility Menu.

1. Download the .plt file from the Customer Assurance website, save the file to a folder in the computer.
2. Note the ip address of the printer, obtained from 'Special Utilities->IO Information'. When you are in the menu do not press any keys on the Front Panel because the printer will shut down.
3. Send the .plt file to the printer using an ftp connection. Example of ftp procedure:
   a. Open a DOS window.

b. ftp <ip of the printer>
c. At the login and password press the enter keys, this will login as 'Anonymous'.
d. bin
e. put <filename.plt)
f. Close the ftp connection and the printer will upgrade the firmware.

# Service Utilities

The following is a list of all internal Service Utilities available in the Printers. Instructions for entering the Service Utilities menu are given on page 133.

1. Turn Drive Roller ⇒ page 134

   The purpose of this Service Utility is to rotate the Drive Roller and the Overdrive in order to clean them.

2. Prime Tubes ⇒ page 135

   The purpose of this Service Utility is to Prime the Tubes when the Ink Tubes are NOT new and they need to be re-primed or automatic priming was not completed correctly.

3. Set SN ⇒ page 138

   The purpose of this Service Utility is to set the Serial Number of the Printer.

4. Reset Life Counters ⇒ page 138

   The purpose of this Service Utility is to reset the internal life counters. There are two submenus that allow you to:

   - Reset ALL the counters related to a Preventive Maintenance Kit (PMK).
   - Reset only the counters related to a specific replaced part.

5. Diagnostic Print ⇒ page 140

   The purpose of this Service Utility is to print the Diagnostic Print in order to identify image quality problems.

6. Sleep Mode ⇒ page 141

   The purpose of this Service Utility is to enable/disable the sleep mode so that the Printer is never switched Off automatically if not used for a certain period of time (one hour by default).

7. Replace Cutter ⇒ page 142

   The purpose of this Service Utility is to move the Carriage to a position where the Cutter can be replaced easily.

8. Set RTC Clock ⇒ page 142

   The purpose of this Service Utility is to set the Real Time Clock (RTC) of the Printer.

9. Enable/Disable Firewall ⇒ page 143

   The purpose of this Service Utility is to enable or disable the firewall of the printer.

10. Prime Pen X ⇒ page 144

    The purpose of this Service Utility is to prime a specific pen.

11. Open/Close SOL ⇒ page 145

    The purpose of this Service Utility is to open and close the Color Sensor shutter.

12. Disk Wipe DoD 5330.22'M ⇒ page 145

    The purpose of this Service Utility is to securely erase data on the Hard Disk.

13. Enable/Disable SCAPA

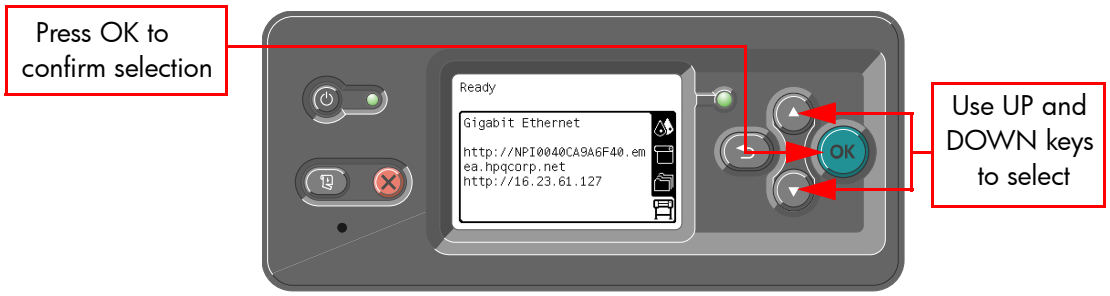
    The purpose of this Service Utility is to enable or disable the SCAPA.

14. Test the Color Sensor (Spectrophotometer) ⇒ page 145

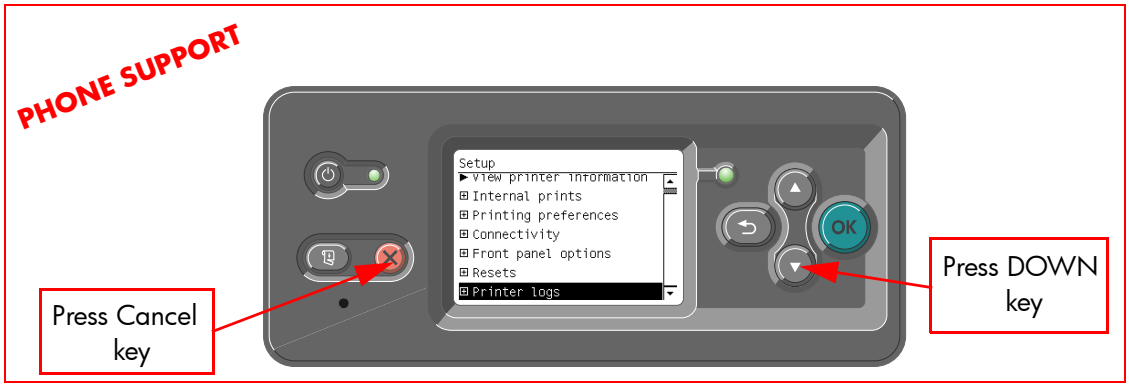
    This test checks that the Spectrophotometer is correctly cailbrating the color for the printer.

## Entering the Service Utilities Menu

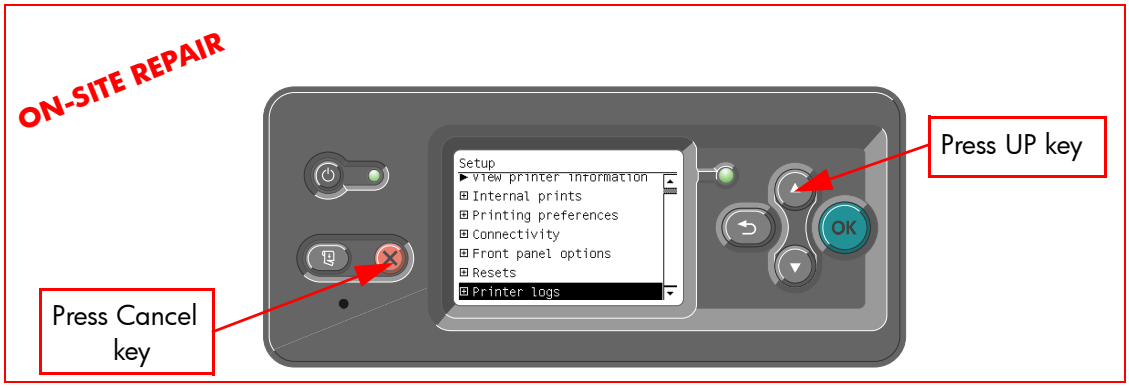
1. Once the message "Ready" is displayed on the front-panel, scroll to the "Printer Setup Options" icon and press the **Enter** key.



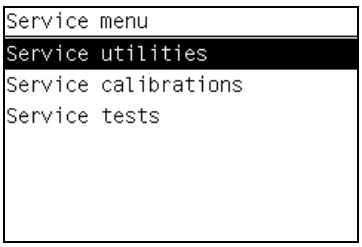

2. For Call Agents who will request the user to perform certain Service Utilities, once inside the "Setup" menu, press the **Down** arrow key and the **Cancel** key together. You are now in the **Service Tools** Menu.d



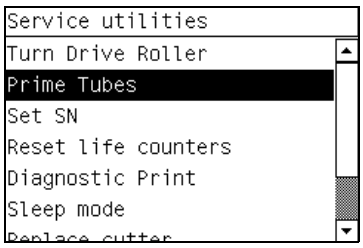

3. For On-Site Engineers, once inside the "Setup" menu, press the **Up** arrow key and the **Cancel** key together. You are now in the **Service Tools** Menu.




4. Use the **Arrow** keys to scroll to the "Service Utilities" menu and press the **Enter** key.



5. Use the **Arrow** keys to scroll through the "Service Utilities" selections and press the **Enter** key to begin a specific operation when the required Service Utility is highlighted.




**NOTE:** If the printer is not used for 135 seconds, the printer exits out of the Service Utilities Menu and you must repeat the above steps to enter Service Utilities again.

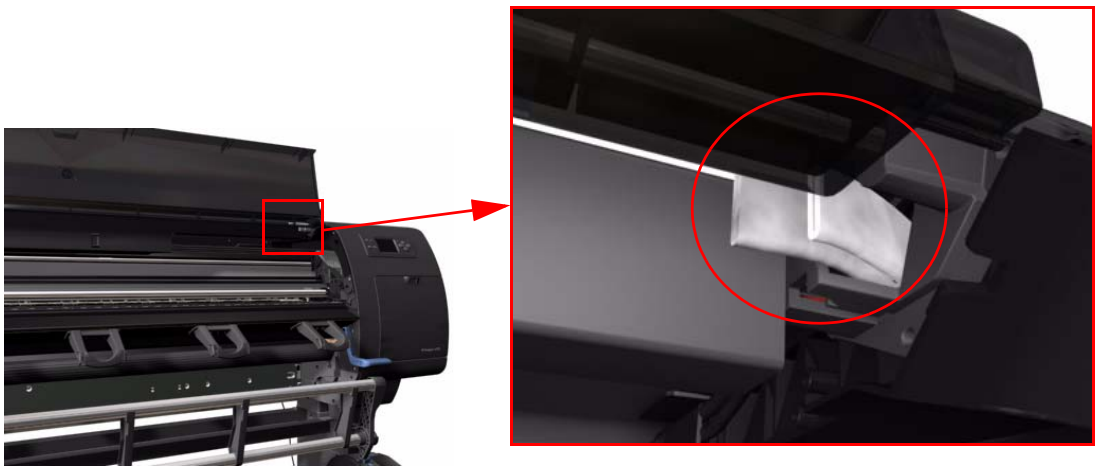
**NOTE:** In some cases a quick press of a button may not be recognized by the Printer. When pressing a button, be sure to press it deliberately and all the way to the bottom of its travel.

## 1. Turn Drive Roller

The purpose of this Service Utility is to rotate the Drive Roller and the Overdrive in order to clean them.

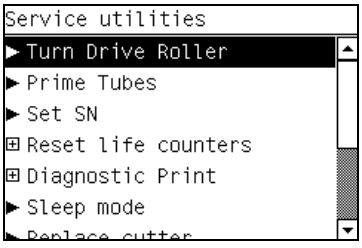
**NOTE:** REMOVE THE MEDIA BEFORE PERFORMING THIS OPERATION.

**NOTE:** OPEN THE WINDOW OF THE PRINTER AND ACTIVATE THE WINDOW SENSOR (USING A PIECE OF PAPER) BEFORE PERFORMING THIS SERVICE UTILITY.

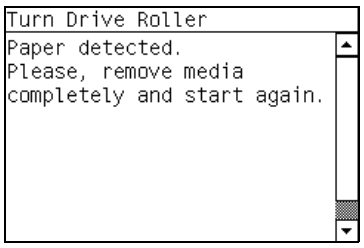


Perform the Turn Drive Roller utility as follows:

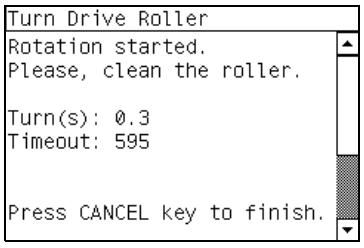
1. In the Service Utilities submenu, scroll to "Turn Drive Roller" and press **Enter**.



2. The Printer checks to see if media is loaded. If media is loaded, the Front Panel will display the following message. Unload the media and start again from **step 1**:




3. The Drive Roller begins to turn slowly and the following message is displayed on the Front Panel:




4. Refer to the Cleaning Instructions on page 452.
5. Once you have finished cleaning the Drive Roller and the Overdrive, press the **Cancel** key to finish the utility.
6. If the utility exits correctly, OK will be displayed on the Front Panel.

**NOTE:** PLEASE REMEMBER TO REMOVE THE PIECE OF PAPER FROM THE WINDOW SENSOR BEFORE CLOSING THE WINDOW AS THIS COULD DAMAGE THE WINDOW AND THE SENSOR.

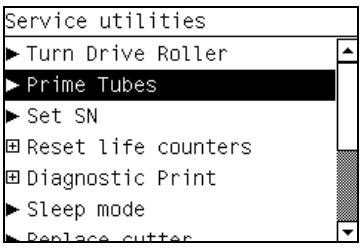
## 2. Prime Tubes

The purpose of this Service Utility is to Prime the Tubes when the Ink Tubes are NOT new and they need to be re-primed or automatic priming was not completed correctly.

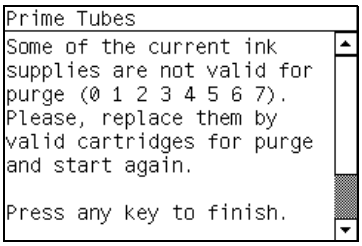
**NOTE:** Make sure that NEW Ink Cartridges are installed or that the ink volume remaining in the Ink cartridges is below 88% before starting to prime the tubes. If you do not comply, you will get a warning message.

Perform the Prime Tubes utility as follows:

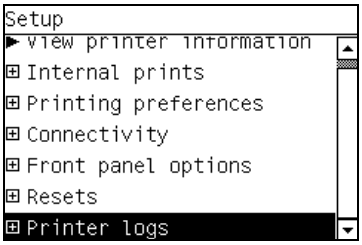
1. In the Service Utilities submenu, scroll to “Prime Tubes” and press **Enter**.



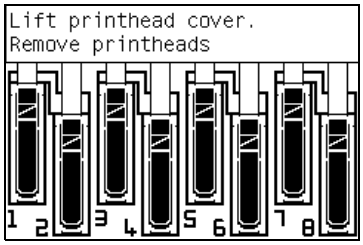
2. If the Ink Cartridges are not suitable for priming, the following message will appear on the Front Panel. Replace the installed Ink Cartridges with Ink Cartridges that are new or contain less than 88% of ink. Press any key to finish the utility.


Prime Tubes
Some of the current ink supplies are not valid for purge (0 1 2 3 4 5 6 7). Please, replace them by valid cartridges for purge and start again.
Press any key to finish.

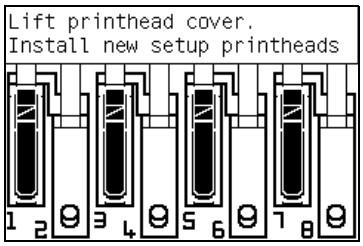
3. When the following message appears on the front panel, you must select whether you would like to continue with the procedure by pressing the **Enter** key, in which case the Printer will reboot. Press **Back** or **Cancel** to exit the procedure at this point.



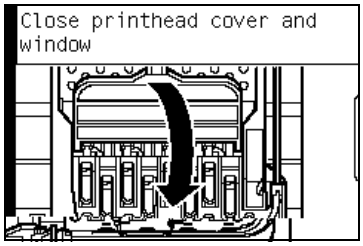

4. Once the Printer has rebooted, the Front Panel will instruct you to open the Window and remove ALL the Printheads installed in the Carriage.




5. Once ALL the Printheads have been removed, the Front Panel will instruct you to install the Setup Printheads into the Carriage. Make sure you install the Setup Printheads in stalls 1, 3, 5 and 7.

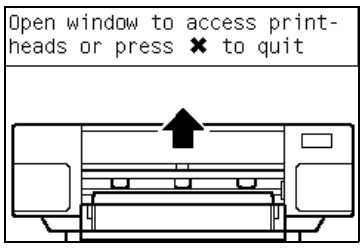



6. Once all the Setup Printheads are installed, the following message will appear on the front panel. Close the carriage cover and close the window.

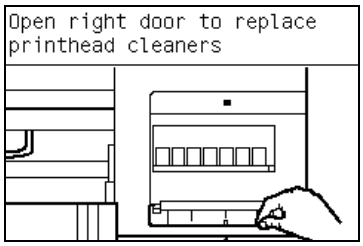



7. The printer will begin to purge the tubes system.

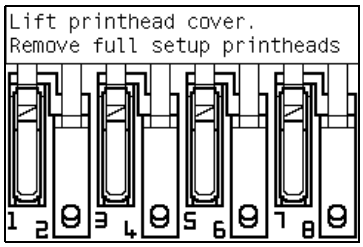
8. Once the tubes system has been purged, the following message will instruct you to open the Window:



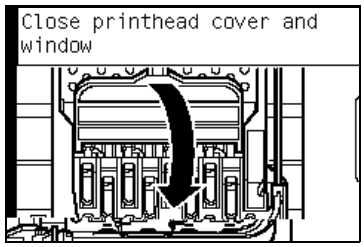

9. Open the right cover and make sure the Maintenance Cartridge is installed in the Service Station.



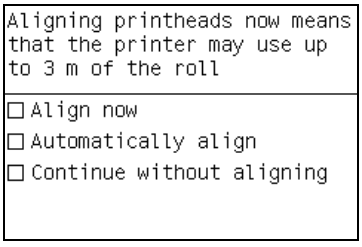

10. When the following message appears on the Front Panel, open the Carriage cover and check the window on top of each Setup Printhead. If the Ink Supply Tubes have been primed correctly, the windows will contain ink. If the windows on top of each Setup Printhead does NOT contain ink, then you may need to repeat the Prime Tubes process from the beginning.



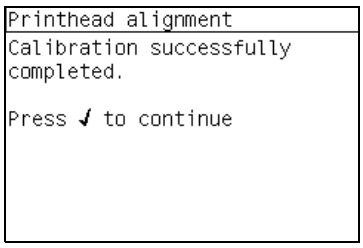

11. Remove ALL the Setup Printheads from the Carriage and install the previously removed Printheads.
12. Once ALL the Printheads are installed, the Front Panel will instruct you to close the Carriage cover and close the Window.




13. The Printer will now perform the Printhead Alignment and the following message will be displayed on the Front Panel. To continue with the Printhead Alignment, use the select "Align now" and press the **Enter** key.


Aligning printheads now means
that the printer may use up
to 3 m of the roll
☐ Align now
☐ Automatically align
☐ Continue without aligning

14. Once the Printhead Alignment is completed, the following message will be displayed on the Front Panel. Press the **Enter** key to continue.

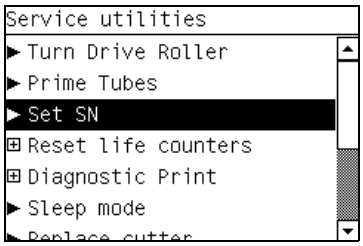



## 3. Set SN

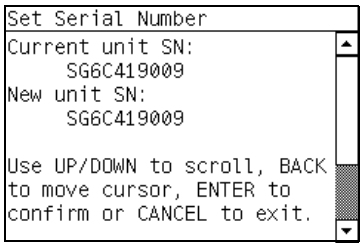
The purpose of this Service Utility is to set the Serial Number of the Printer.

Perform the Set SN utility as follows:

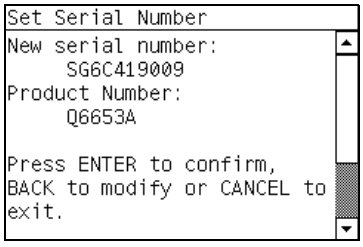
1. In the Service Utilities submenu, scroll to “Set SN” and press **Enter**.




2. The Printer will display the current Serial Number and the new Serial Number of the Printer. Use the **Up** and **Down** keys to go through the digits and press the **Enter** key to go to the next digit. You can press the **Cancel** key at any time to exit the utility without making any changes.


Set Serial Number
Current unit SN:
SG6C419009
New unit SN:
SG6C419009
Use UP/DOWN to scroll, BACK to move cursor, ENTER to confirm or CANCEL to exit.

3. Once the new Serial Number has been entered, the Front Panel will display the Serial Number and Model Number of the Printer. Press the **Enter** key to confirm the Serial Number or the **Cancel** key to exit the utility without making any changes or the **Back** key to modify again.




4. If the utility exits correctly, OK will be displayed on the Front Panel.

## 4. Reset Life Counters

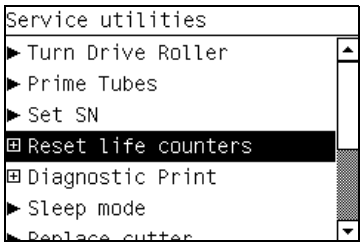
The purpose of this Service Utility is to reset the internal life counters. There are two submenus that allow you to:

- Reset ALL the counters related to a Preventive Maintenance Kit (PMK).
- Reset only the counters related to a specific replaced part.

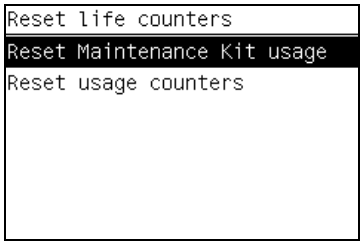
**NOTE:** ALWAYS RESET THE LIFE COUNTER OF A CORRESPONDING PART ONLY AFTER REPLACING IT.

Perform the Reset Life Counters utility as follows:

1. In the Service Utilities submenu, scroll to “Reset Life Counters” and press **Enter**.



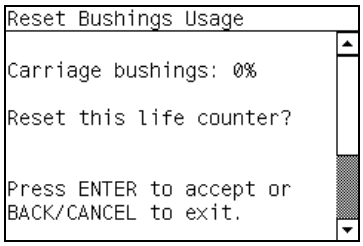

2. You will be given an option to either reset the Life Counter for ALL the parts related to a Preventive Maintenance Kit (PMK) or to just reset the Life Counter for a particular part:




   a. If you select to reset the Life Counter for ALL the parts related to a Preventive Maintenance Kit (PMK), you will be given an option to reset the Life Counter of:
      - Preventive Maintenance Kit 1 (PMK1).
      - Preventive Maintenance Kit 2 (PMK2).

   b. If you select to reset the Life Counter for a particular part, you will be given an option to reset the Life Counter of the:
      - Carriage ME.
      - Tubes and Trailing Cable.
      - Scan Motor
      - Left Spittoon.
      - Drop Detector
      - Line Sensor
      - APS Pump.
      - Maintenance Cartridge Spittoon.
      - Paper Motor.
      - OMAS Module.
      - Primer Mech.
      - SVS.
      - Color Meter

3. Once you have selected a Life Counter to reset, the following message will be displayed on the Front Panel. Press the **Enter** key to reset the selected Life Counter or press **Back**/**Cancel** to exit without resetting the Life Counter.




If the Usage Counter information cannot be read, the Front Panel will display "Unable to get usage counter". This could point to a possible Firmware error.

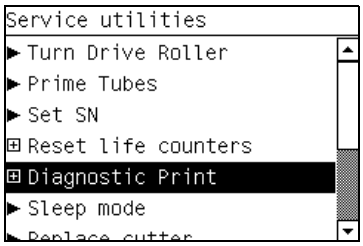
4. If the utility exits correctly, OK will be displayed on the Front Panel.

## 5. Diagnostic Print

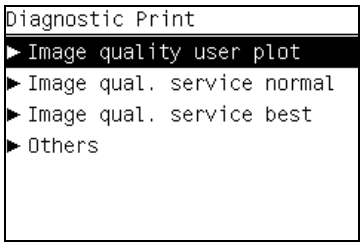
The purpose of this Service Utility is to print the Diagnostic Print in order to identify image quality problems.

Print the Diagnostic Print as follows:

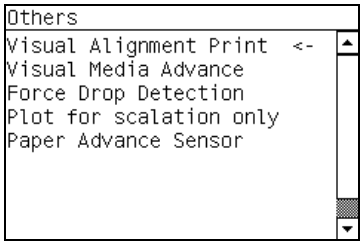
1. In the Service Utilities submenu, scroll to "Diagnostic Print" and press **Enter**.




2. You will be given an option to either print the "Image Quality User Plot", the "Image Qual. service normal", the "Image Qual. service best", or "Others". Use the **Arrow** keys to make the selection and press the **Enter** key to start printing the required Diagnostic Print.




If you select "Others" you will be given a submenu to select the required diagnostic plot:




If the OMAS sensor is enabled the printer will display a message: **Do you want to disable the OAMS sensor?** Select **Yes** or **No**.

3. Make sure media is loaded, the Pinch Lever is lowered and that the Ink System is correctly installed. Press the **Enter** key to print the Diagnostic Print or press **Back**/**Cancel** to exit without printing the Diagnostic Print.

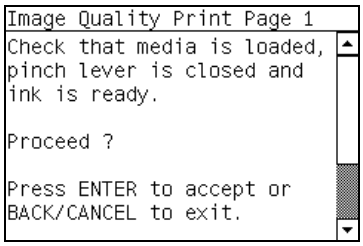


Image Quality Print Page 1
Check that media is loaded, pinch lever is closed and ink is ready.
Proceed ?
Press ENTER to accept or BACK/CANCEL to exit.

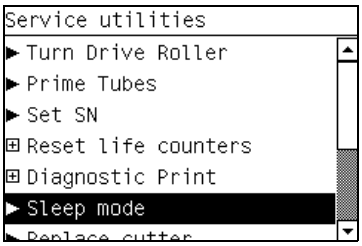
4. The selected Diagnostic Print will now be printed. For further information on how to use troubleshoot Image Quality problems, refer to "How to Use the Image Quality Service Diagnostic Print" on page 181.

## 6. Sleep Mode

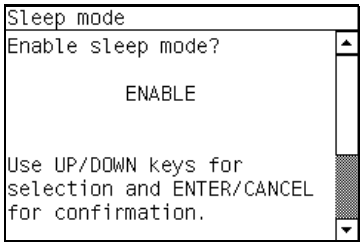
The purpose of this Service Utility is to enable/disable the sleep mode so that the Printer is never switched Off automatically if not used for a certain period of time (one hour by default).

Perform the Sleep Mode utility as follows:

1. In the Service Utilities submenu, scroll to "Sleep Mode" and press **Enter**.

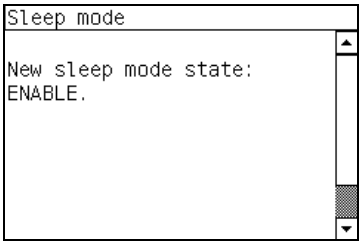



2. When the following message appears on the front panel, use the **Up** and **Down** arrow keys to either disable or enable the sleep mode. Press the **Enter** or **Cancel** key to confirm the selection.




If the current sleep mode cannot be read, it could point to a possible Firmware error.

3. Once the selection is confirmed, the Front Panel will display the new sleep mode state:




If the current sleep mode cannot be set, it could point to a possible Firmware error.

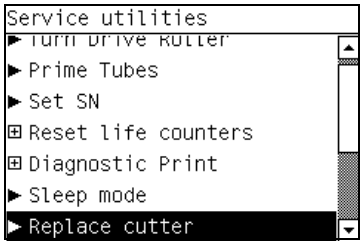
4. If the utility exits correctly, OK will be displayed on the Front Panel.

## 7. Replace Cutter

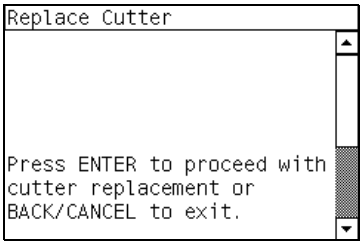
The purpose of this Service Utility is to move the Carriage to a position where the Cutter can be replaced easily.

Perform the Replace Cutter utility as follows:

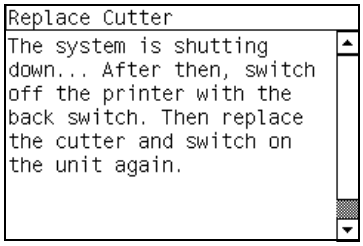
1. In the Service Utilities submenu, scroll to “Replace Cutter” and press **Enter**.




2. When the following message appears on the front panel, you must select whether you would like to continue with replacing the Cutter by pressing the **Enter** key. Press **Back** or **Cancel** to exit the utility.




3. The Carriage will move to the Cutter replacement position and the following message will be displayed on the Front Panel. After a few seconds the Printer will begin to shutdown.



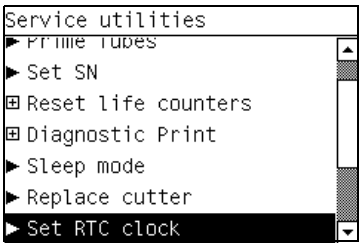

4. Before replacing the Cutter, make sure that you switch the Printer OFF from the rear.

## 8. Set RTC Clock

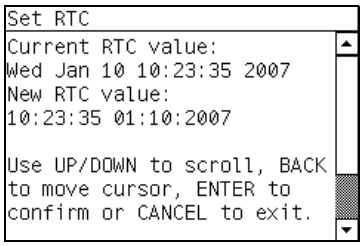
The purpose of this Service Utility is to set the Real Time Clock of the Printer.

Perform the Set RTC Clock utility as follows:

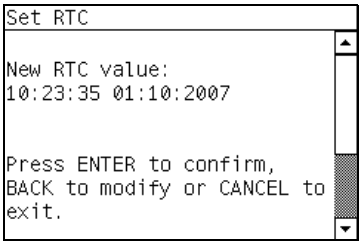
1. In the Service Utilities submenu, scroll to “Set RTC Clock” and press **Enter**.



2. The Printer will display the current time and the new time. Use the **Up** and **Down** keys to go through the digits and press the **Enter** key to go to the next digit. You can press the **Cancel** key at any time to exit the utility without making any changes.

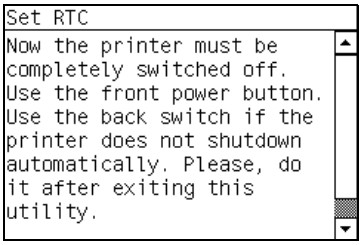

Set RTC
Current RTC value:
Wed Jan 10 10:23:35 2007
New RTC value:
10:23:35 01:10:2007
Use UP/DOWN to scroll, BACK to move cursor, ENTER to confirm or CANCEL to exit.

3. Once the new time has been entered, the Front Panel will display the time that you have requested. Press the **Enter** key to confirm the time or the **Cancel** key to exit the utility without making any changes or the **Back** key to modify again.




If the current RTC Clock cannot be set, it could point to a possible Firmware error.

4. Once the new time has been set, the Front Panel will prompt you to restart the printer after exiting the Set RTC utility.


Set RTC
Now the printer must be completely switched off. Use the front power button. Use the back switch if the printer does not shutdown automatically. Please, do it after exiting this utility.

If there is a failure at this point, the Front Panel will display **System Error Code 79:04**. For more information on troubleshooting this error code, refer to page 73.

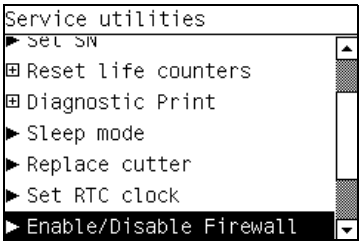
5. If the utility exits correctly, OK will be displayed on the Front Panel.

## 9. Enable/Disable Firewall

The purpose of this Service Utility is to enable or disable the firewall of the printer.

Perform the Enable/Disable Firewall utility as follows:

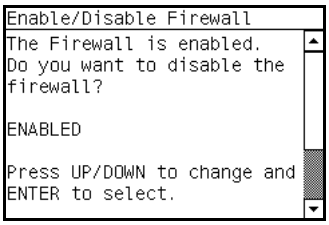
1. In the Service Utilities submenu, scroll to “Enable/Disable Firewall” and press **Enter**.




2. The utility checks to see if the firewall is enabled or disabled and the Front panel displays the following message:

   - Getting Information of Firewall.

3. When the following message appears on the front panel, you must select whether you would like to enable of disable the firewall. Use the **Up** and **Down** keys to make your selection and press the **Enter** key.



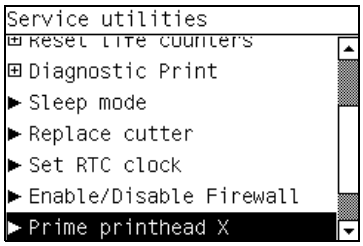

4. The system upgrades the internal memory to reflect the chosen selection.
5. If the utility exits correctly, OK will be displayed on the Front Panel.

## 10. Prime Printhead X

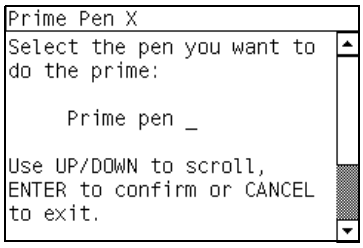
The purpose of this Service Utility is to prime a specific pen.

Perform the Prime Pen X utility as follows:

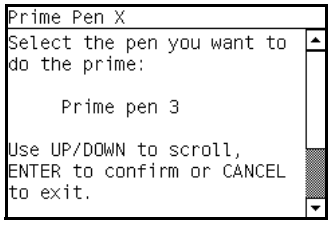
1. In the Service Utilities submenu, scroll to “Prime Pen X” and press **Enter**.




2. When the following message appears on the Front Panel, you must select whether you want to perform the Prime Printhead X Service Utility by pressing **Enter**. Press **Back** or **Cancel** to exit the utility.




3. Use the **Arrow** keys to select the Pen (0 to 7) you want to prime and press the **Enter** key.




4. The Printer will prime the selected pen and the Front Panel will display the following messages:
   - Setting pens operational.
   - Preparing fluid manager.
   - Priming...
   - Terminating fluid manager.

- Allowing pens not operational.

If there is a failure at this point, the Front Panel will display an error code. For more information on troubleshooting this error code, refer to page 47.

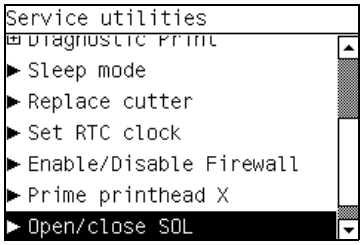
5. If the utility exits correctly, OK will be displayed on the Front Panel.

## 11. Open/Close SOL

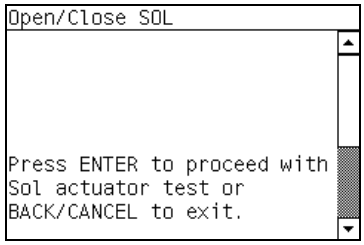
The purpose of this Service Utility is to open and close the Color Sensor shutter to verify correct operation.

Perform the Open/Close SOL utility as follows:

1. In the Service Utilities submenu, scroll to "Open/Close SOL" and press **Enter**.




2. When the following message appears on the Front Panel, you must select whether you want to perform the Open/Close SOL Service Utility by pressing **Enter**. Press **Back** or **Cancel** to exit the utility.




3. The Printer will perform the Open/Close SOL test and the Front Panel will display the following messages:

- Performing SOL Full Calibration.
- Checking ColorSensor Status.
- Reading Lab values with SOL Shutter Closed.
- Opening SOL Shutter
- Reading Lab values with SOL Shutter Open
- Analyzing SOL Shutter Open status.

If there is a failure at this point, the Front Panel will display **System Error Code 58:10**. For more information on troubleshooting this error code, refer to page 68.

4. If the utility exits correctly, OK will be displayed on the Front Panel.

## 12. Disk Wipe DoD 5330.22'M

The purpose of this Service Utility is to securely erase data on the Hard Disk according to the directive DoD 5220.22-M.

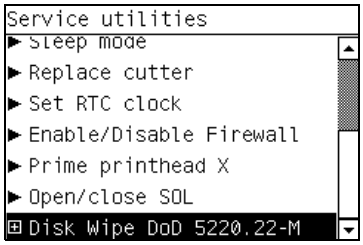
The printer's hard disk is used as a temporary storage area for print jobs. The Secure Disk Erase facility can completely erase your information from the hard disk to protect it from unauthorized access.

Secure Disk Erase provides three different levels of security:

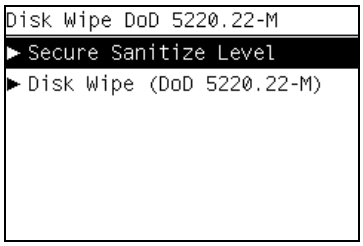
- **Non-Secure Fast Erase:** all pointers to the information are erased. The information itself remains on the hard disk until the disk space it occupies is needed for other purposes, and it is then overwritten. While it remains on the disk, it is difficult for most people to access, but may be accessed using software designed for the purpose. This is the normal method in which files are erased on most computer systems; it is the fastest method but the least secure. This is the default security level when using Secure Disk Erase.
- **Secure Fast Erase:** all pointers to the information are erased, and the information itself is also overwritten with a fixed character pattern. This method is slower than Non-Secure Fast Erase, but more secure. It may still be possible to access fragments of the erased information by using special tools to detect residual magnetic traces.
- **Secure Sanitizing Erase:** all pointers to the information are erased, and the information itself is repetitively overwritten using an algorithm designed to eliminate any residual traces. This is the slowest method, but the most secure. Secure Sanitizing Erase meets the US Department of Defense 5220-22.m requirements for clearing and sanitization of disk media.

Perform the Disk Wipe DoD 5330.22-M utility as follows:

1. In the Service Utilities submenu, scroll to “Disk Wipe DoD 5330.22-M” and press **Enter**.

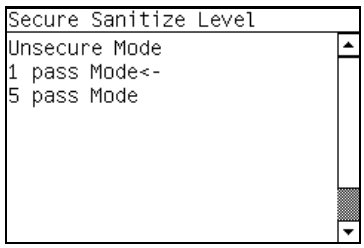



2. In the Disk Wipe DoD 5330.22-M submenu, scroll to “Secure Sanitize Level” and press **Enter**.



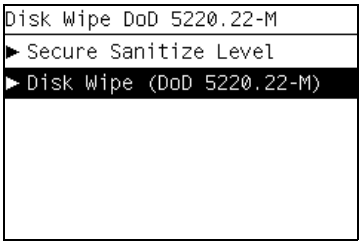

3. In the Secure Sanitize Level submenu, scroll to the required Secure Sanitize Level and press **Enter**.

**NOTE:** Erasing the Hard Disk drive using either of the Secure Sanitize Levels is a very slow process, 6 hours for the Secure Fast Erase mode and 40 hours for the Secure Sanitizing Erase mode.

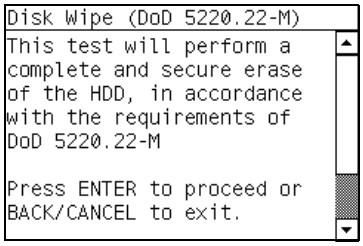



4. Press **Back** to return to the Disk Wipe DoD 5330.22-M submenu.

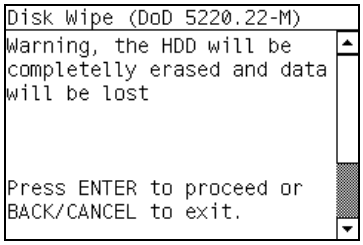
5. In the Disk Wipe DoD 5330.22-M submenu, scroll to “Disk Wipe DoD 5330.22-M” and press **Enter**.




6. When the following message appears on the Front Panel, you must select whether you would like to perform a complete erase of the Hard Disk Drive using the previously selected erase mode by pressing **Enter**. Press **Back** or **Cancel** to exit the utility

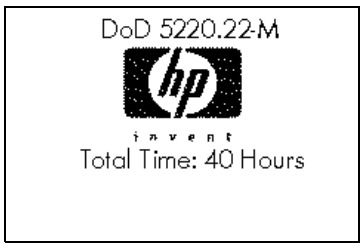

Disk Wipe (DoD 5220.22-M)
This test will perform a complete and secure erase of the HDD, in accordance with the requirements of DoD 5220.22-M
Press ENTER to proceed or BACK/CANCEL to exit.

7. When the following message appears on the Front Panel, you must select whether you want to continue and completely erase of the Hard Disk Drive by pressing **Enter**. Press **Back** or **Cancel** to exit the utility.


Disk Wipe (DoD 5220.22-M)
Warning, the HDD will be completelly erased and data will be lost
Press ENTER to proceed or BACK/CANCEL to exit.

8. The erase process starts and the Front Panel shows the total time required to erase the Hard Disk Drive using the selected Sanitize Level along with a progress bar.

Secure Fast Erase



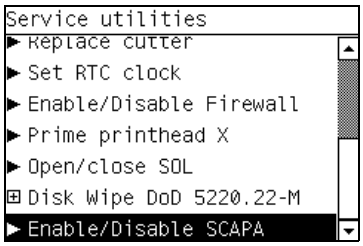

Secure Sanitizing Erase

## 13. Enable/Disable SCAPA

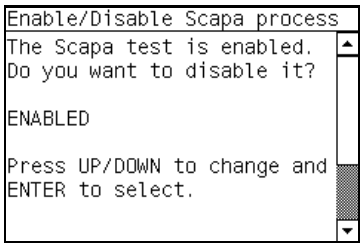
The purpose of this Service Utility is to enable or disable the Scan Axis Pen Alignment (SCAPA) process which is used as a compensation/adjustment factor during the printhead alignment. The advantage of this process is that it allows the printhead alignment to be carried out at the beginning of the roll (during the first 3 meters).

Perform the Enable/Disable SCAPA utility as follows:

1. In the Service Utilities submenu, scroll to "Enable/Disable SCAPA" and press **Enter**.




2. The Printer checks the current state of the SCAPA and prompts you to enable it if it is disabled or to disable it if it is enabled.




3. Make you selection and press **Enter**.
4. The selection is made and OK is displayed.

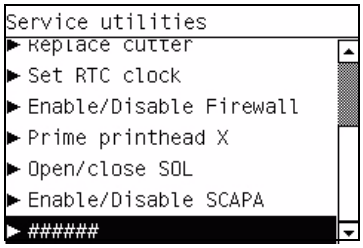
## 14. Spectrophotometer test (Colormeter test)

This test can check that the Spectrophotometer is functioning within predefined color specifications. The test involves measuring the lightness of the white of the paper.

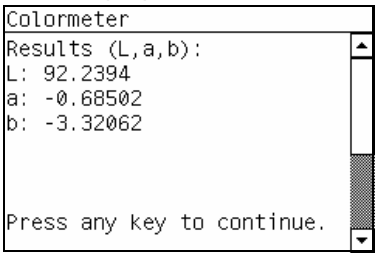
**NOTE:** To perform this test correctly the printer must have the latest firmware available.

1. Make sure that the paper loaded is compatible with the Spectrophotometer test, there are certain types of media which cannot be used for this type of test. The best results can be acheivied by using HP Universal Instant dry Gloss, use the part number Q1273-60232. With this test there are other media that you can use:
   - HP Bright White
   - HP Premium Instant Dry Gloss
   - HP Premium Instant Dry Photo Satin
   - HP Universal Coated
   - HP Universal Heavyweight Coated

2. In the Service Utilities submenu, scroll to ###### and press **Enter**.




3. At the end of the test the Front Panel will display the results:




Compare the value of L seen in the Front Panel to the results that should be seen in the following media:

If for example the value seen in the results for L is **93** when HP Bright White media is loaded, this would indicate that the Spectrophotometer is functioning correctly. The nominal values are shown here for infomation only:

| Paper | Min L* | Max L* | Nominal L* |
|---|---|---|---|
| HP Bright White | 90.12 | 95.70 | 91.91 |
| HP Premium Instant Dry Gloss | 92.38 | 97.24 | 93.81 |
| HP Premium Instant Dry Photo Satin | 92.13 | 97.36 | 93.74 |
| HP Universal Coated | 89.51 | 94.65 | 91.08 |
| HP Universal Heavy Weight Coated | 88.38 | 96.55 | 91.46 |
| HP Universal Instant Dry Gloss | 90.95 | 96.71 | 92.83 |

# 5 Service Calibrations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- Entering the Service Calibrations Menu ..... 153
  - 1. Scan Axis Calibration ..... 154
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  - 6. OMAS Calibration ..... 167
  - 7. Primer Calibration ..... 173
  - 8. Platen Blue Line Calibration ..... 177

# Service Calibrations

The Printer has several calibration procedures that must be performed under certain conditions.

The following is a list of all internal service calibrations available in the Printers. See page 153 for instructions on how to enter the service calibrations menu.

**NOTE:** REMEMBER THAT CERTAIN CALIBRATIONS ARE REQUIRED EVEN IF AN ASSEMBLY HAS BEEN DISASSEMBLED TO GAIN ACCESS TO ANOTHER ASSEMBLY OR COMPONENT.

1. Scan Axis Calibration ⇒ See page 154

   The purpose of this Service Calibration is to carry out a PWM check, and calibrate the intensity of the Line Sensor.

2. Paper Advance Calibration ⇒ See page 157

   The purpose of this Service Calibration is to calibrate the nominal advance of the media. This calibration is necessary to control the exact movement of the media in order to avoid print quality problems like banding.

3. Drop Detector Calibration ⇒ See page 162

   The purpose of this Service Calibration is to calibrate the Drop Detector (located in the Service Station) in relation to the Carriage Assembly.

4. Line Sensor Calibration ⇒ See page 163

   The purpose of this Service Calibration is to calibrate the intensity of the Line Sensor. An incorrect calibration can result in edge-detection failures during media loading and incorrect reading of prints that are used for alignment or calibration.

5. Vacuum Calibration ⇒ See page 166

   The purpose of this Service Calibration is to set the default nominal and real values of the Vacuum Fan.

6. OMAS Calibration ⇒ See page 167

   The purpose of this Service Calibration is to calibrate the Optical Media Advance Sensor.

7. Primer Calibration ⇒ See page 173

8. The purpose of this Service Calibration is to calibrate the Primer.

9. Platen Blue Line Calibration ⇒ See page 177

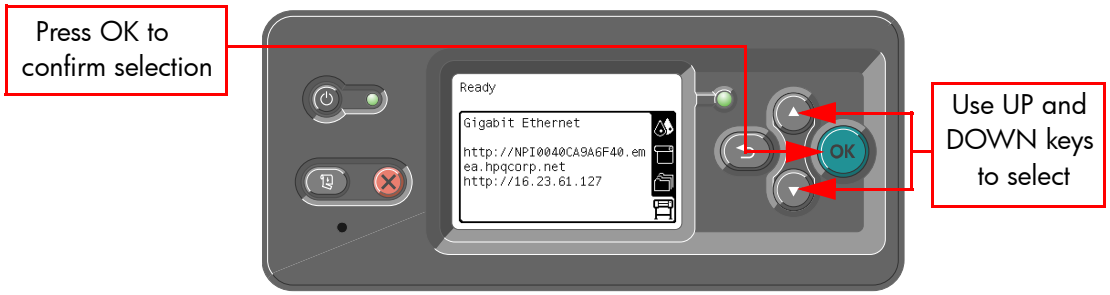
   The purpose of this Service Calibration is to calibrate the blue line which is marked on the Print Platen.

**NOTE:** If ALL the Calibrations need to be performed (for example, when both the HDD and the ISS PCA have been replaced), you must perform them in the following order:

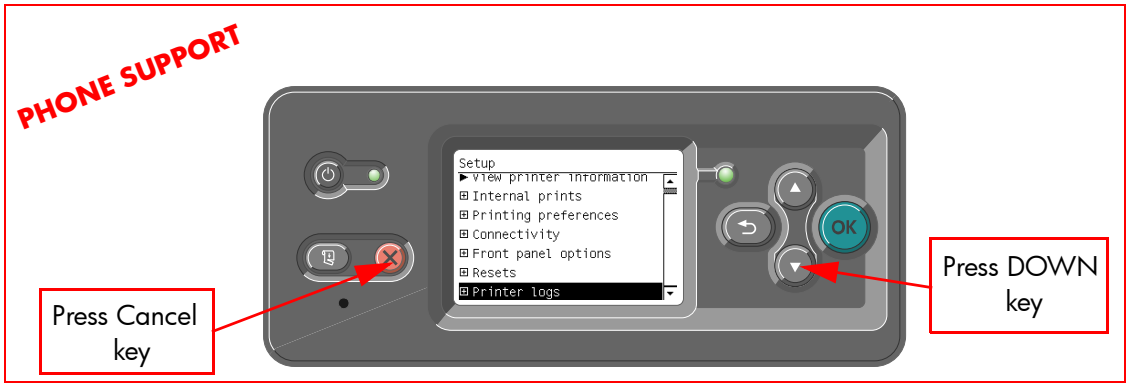
- Vacuum Calibration.
- Drop Detector/Service Station Calibration.
- Line Sensor/Scan Axis Calibration.
- Paper Advance Calibration.
- Platen Blue Line Calibration.

# Entering the Service Calibrations Menu

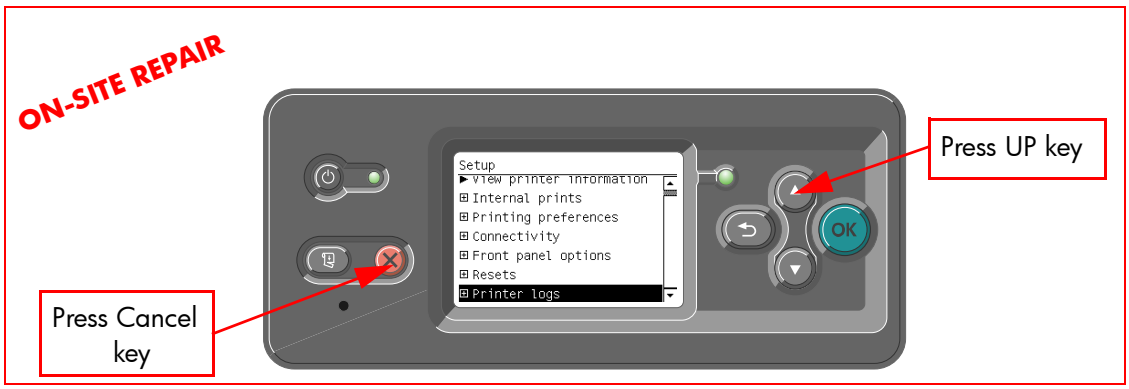
1. Once the message “Ready” is displayed on the front-panel, scroll to the “Printer Setup Options” icon and press the **Enter** key.



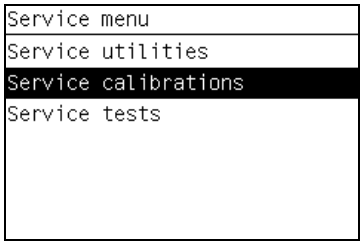

2. Once inside the “Printer Setup Menus” menu, press the **UP or Down** arrow key and the **Cancel** key together. You are now in the **Service Tools** Menu.




3. For On-Site Engineers, once inside the “Setup” menu, press the **Up** arrow key and the **Cancel** key together. You are now in the **Service Tools** Menu.




4. Use the **Arrow** keys to scroll to the “Service Calibrations” menu and press the **Enter** key.



5. Use the **Arrow** keys to scroll through the "Service Calibrations" selections and press the **Enter** key to begin a specific operation when the required Service Calibration is highlighted.

**NOTE:** If the printer is not used for 135 seconds, the printer exits out of the Service Calibrations Menu and you must repeat the above steps to enter Service Calibrations again.

## 1. Scan Axis Calibration

The purpose of this Service Calibration is to carry out a PWM check, calibrate the intensity of the Line Sensor and calibrate the Line Sensor position to the Black Printhead.

Perform the Scan Axis Calibration whenever:

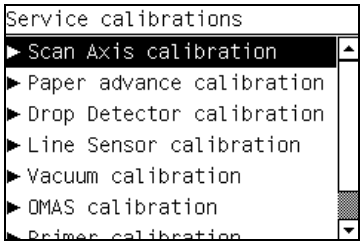
- Carriage is disassembled or replaced.
- Encoder Strip is disassembled or replaced.
- Center Platen is disassembled or replaced.

Perform the Scan Axis Calibration as follows:

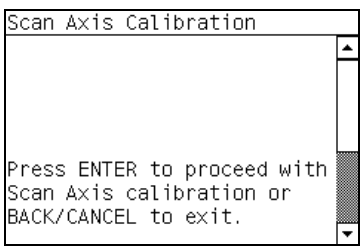
**NOTE:** Make sure you load one of the following media into the Printer before performing this calibration:

- HP Bond Paper.
- HP Glossy Media.
- HP Coated Paper.
- HP Productivity Photo Gloss.
- HP Heavyweight Coated Paper.
- HP Super Heavyweight Coated Paper.
- HP Bright White Inkjet Paper.

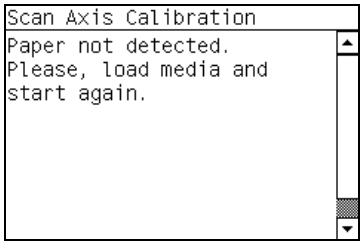
1. In the Service Calibrations submenu, scroll to "Scan Axis Calibration" and press **Enter**.




2. When the following message appears on the front panel, you must select whether you would like to continue with the calibration by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.



3. If media is not loaded, the following message appears on the front panel. Load media in to the Printer and start again from **step 1**.




Before continuing, the Printer will check the following:

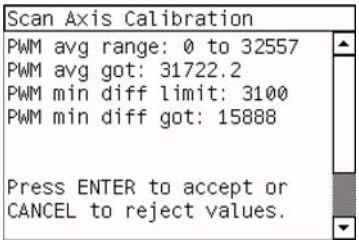
- The Media Lever is in the lowered position.
- The correct paper type is loaded (check list on previous page).
- The correct paper size (minimum paper size 24 inches).

If these conditions are **not** met, a warning will be displayed on the Front Panel and you will need to restart the Calibration from **step 1**.

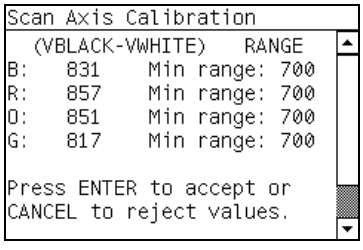
**NOTE:** In order to perform this Calibration, you should order the Paper Advance Calibration Kit (Part Number Q1273-60296) which contains two sheets of HP Productivity Gloss Media.

**WARNING!:** Make sure you keep your hands away from the Print Platen as the Carriage will be moving at high speed and you could injure yourself or damage the Carriage Assembly.

4. The Printer will start to check the PWM. Once the PWM has been checked, the results will be displayed on the Front Panel. Press **Enter** to continue or press **Back** or **Cancel** to exit the calibration.


Scan Axis Calibration
PWM avg range: 0 to 32557
PWM avg got: 31722.2
PWM min diff limit: 3100
PWM min diff got: 15888
Press ENTER to accept or
CANCEL to reject values.

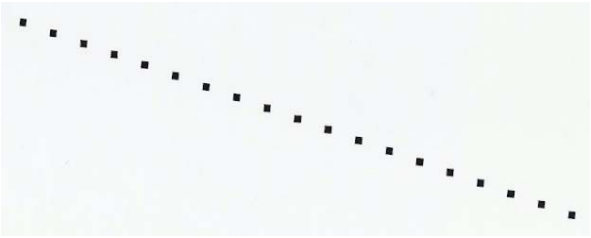
5. The Printer will start to calibrate the Line Sensor. Once the Line Sensor has been calibrated, the results will be displayed on the Front Panel. Press Enter to continue or press **Back** or **Cancel** to exit the calibration.


Scan Axis Calibration
(VBLACK-VWHITE) RANGE
B: 831 Min range: 700
R: 857 Min range: 700
O: 851 Min range: 700
G: 817 Min range: 700
Press ENTER to accept or
CANCEL to reject values.

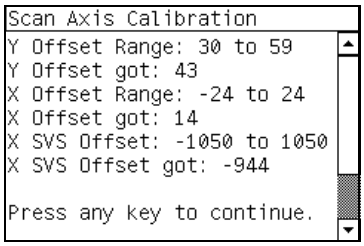
If the values are not within the range specified, an error will appear on the Front Panel. In this case, try the following:

- Try the Scan-Axis Calibration again.
- Replace the Line Sensor ⇒ See page 390.

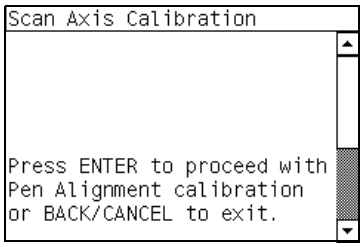
6. The Printer will start to calibrate the Line Sensor position to the Black Printhead. It will print a line of black dots and then scan them:



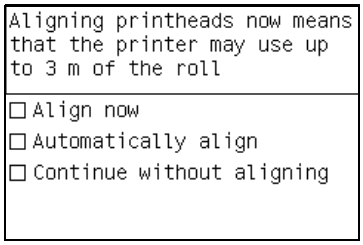
7. Once the Line Sensor has been calibrated, the results will be displayed on the Front Panel. Press **Enter** to finish the calibration or press **Back** or **Cancel** to exit the calibration.


Scan Axis Calibration
Y Offset Range: 30 to 59
Y Offset got: 43
X Offset Range: -24 to 24
X Offset got: 14
X SVS Offset: -1050 to 1050
X SVS Offset got: -944
Press any key to continue.

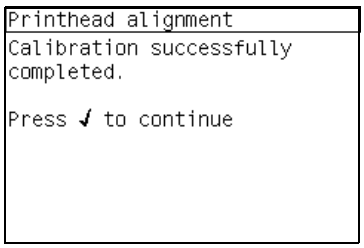
8. The Printer will now perform the Printhead Alignment. When the following message appears on the front panel, you must select whether you would like to continue with the calibration by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.




9. Before continuing with the Printhead Alignment, the following message will be displayed on the Front Panel. To continue with the Printhead Alignment, select "Align now" and press the **Enter** key.




10. Once the Printhead Alignment is completed, the following message will be displayed on the Front Panel. Press the **Enter** key to continue.

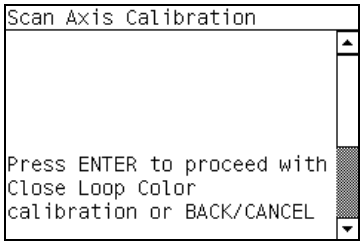



If the Printhead Alignment fails for any reason, a warning message will appear on the Front Panel. In this case, try the following:

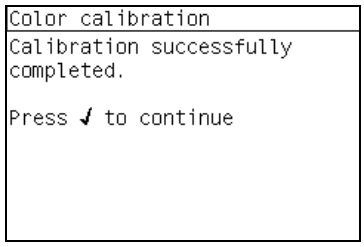
- Enter the Front Panel menu and retry the Printhead Alignment. If the Alignment completes successfully, then perform the Color Calibration.

- If the Alignment fails again, check the Alignment pattern to see if any of the Printheads are printing incorrectly. If necessary, perform a Printhead Recovery through the Front Panel and retry the Printhead Alignment.

11. The Printer will now perform the Color Calibration. When the following message appears on the front panel, you must select whether you would like to continue with the calibration by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.




12. Once the Color Calibration is completed, the following message will be displayed on the Front Panel. Press the **Enter** key to continue.




All CLC profiles are deleted so you will need to perform Color Calibration again for every new media that is loaded in to the Printer.

If the Color Calibration fails for any reason, a warning message will appear on the Front Panel. In this case, try the following:

- Enter the Front Panel menu and retry the Color calibration.
- If the Calibration fails again, check the Calibration pattern to see if any of the Printheads are printing incorrectly. If necessary, perform a Printhead Recovery through the Front Panel and retry the Calibration.

13. Once the complete Scan Axis calibration is completed successfully, OK will be displayed on the Front Panel.

## 2. Paper Advance Calibration

The purpose of this Service Calibration is to calibrate the nominal advance of the media. This calibration is necessary to control the exact movement of the media in order to avoid print quality problems like banding.

**NOTE:** In order to perform this Calibration, you should order the Paper Advance Calibration Kit (Part Number Q1273-60296) which contains two cut sheets of HP Universal Instant-dry Gloss Photo media (36-inches wide by 42-inches long) ⇒

Perform the Service Accuracy Calibration whenever:

- Banding is detected in prints.
- Drive Roller is disassembled or replaced.
- Paper-axis Assembly is disassembled or replaced.

The Paper Advance Calibration is split into three parts and should **always** be done in this order:

- Print Calibration Pattern - The Printer first calibrates the Analog Encoder and then prints the Paper Advance Calibration pattern.

- Scan Calibration Pattern - The Printer scans the Paper Advance Calibration pattern in order to calibrate the nominal advance of the media.

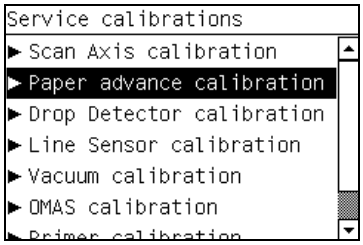
**NOTE:** Only scan the Calibration Pattern in the Printer that was used to actually print it. Using the Calibration in a different Printer could cause it to experience media advance problems. After scanning the Calibration Pattern, it should be discarded.

- Clean Drive Roller - After loading media that the customer will use, the Printer "prepares" the media path to prevent any future advance problems.

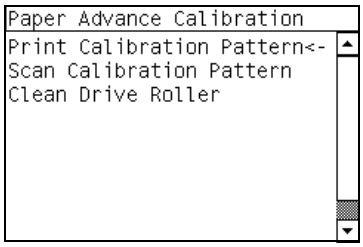
Perform the Paper Advance Calibration as follows:

**NOTE:** Make sure that you unload media from the Printer before performing the Paper Advance Calibration.

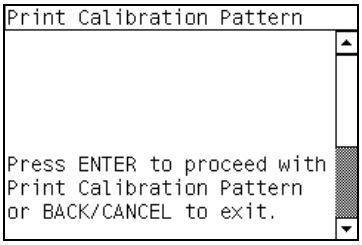
1. In the Service Calibrations submenu, scroll to "Paper Advance Calibration" and press **Enter**.



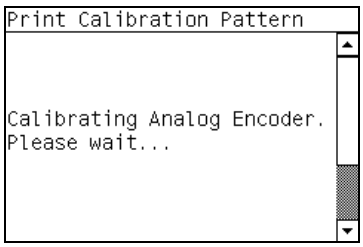

2. In the Paper Advance Calibration submenu, scroll to "Print Calibration Pattern" and press **Enter**.




3. When the following message appears on the front panel, you must select whether you would like to continue with the calibration by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.



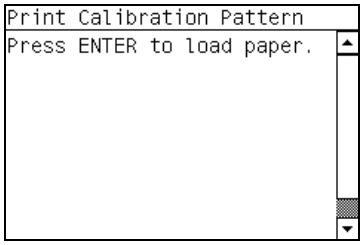

4. The Printer will start to calibrate the Analog Encoder and the following message will be displayed on the Front Panel.



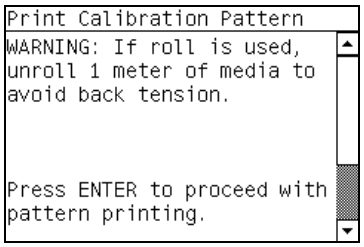
If the Calibration is not done or if the values are out of the limits, a warning message will appear on the Front Panel. In this case, try the following:

- Check that the Printer has the latest Firmware version. If not, update the Firmware to the latest version.
- Retry the Paper Advance Calibration.
- If the problem continues, replace the Encoder Strip and Encoder Sensor ⇒ Page 331.

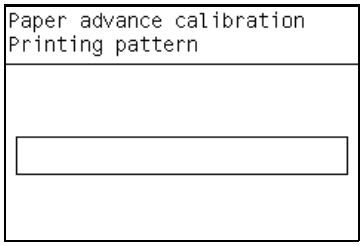
5. Once the Analog Encoder has been calibrated correctly, the following message will appear on the Front Panel. Press the **Enter** key in order to start the media load process.



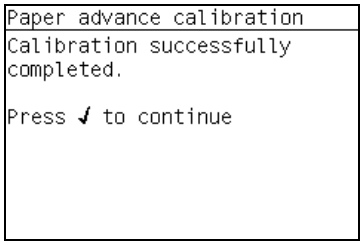

6. Load a sheet of HP Universal Instant-dry Gloss Photo media (product number Q6575A) that was included in the Paper Advance Calibration Kit (Part Number Q1273-60296) following the instructions on the Front Panel. If the kit is not available, then cut a piece of HP Universal Instant-dry Gloss Photo media that is 36-inches wide and at least 42-inches long.
7. Once the media is loaded into the Printer, the following message will appear on the Front Panel. If roll media has been used instead of cut sheet media, then you will need to unroll a minimum of 1 meter of media in order to prevent any back tension which could cause any media advance problems. Press the **Enter** key to continue.


Print Calibration Pattern
WARNING: If roll is used,
unroll 1 meter of media to
avoid back tension.
Press ENTER to proceed with
pattern printing.

8. The Printer will start to print the Paper Advance Calibration Pattern. This could take several minutes during which the following message will be displayed on the Front Panel.




9. Once the Accuracy Calibration Pattern has been printed successfully, the following message will be displayed on the Front panel. Press the **Enter** key to continue.




If the Paper Advance Calibration fails for any reason, a warning message will appear on the Front Panel. In this case, try the following:

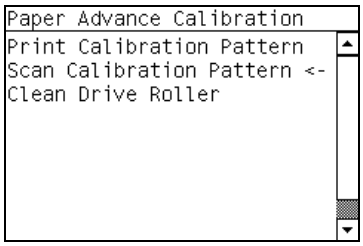
- Retry the Paper Advance Calibration.

- If necessary, perform a Printhead Recovery through the Front Panel and retry the Calibration.

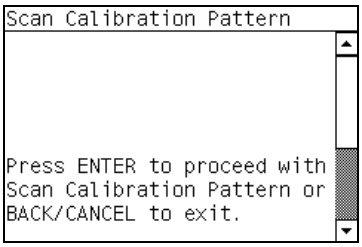
**NOTE:** Remove the pattern from the printer and leave it to dry for a few minutes before continuing with the Calibration.

**NOTE:** MAKE SURE NO MEDIA IS LOADED INTO THE PRINTER BEFORE STARTING TO SCAN THE CALIBRATION PATTERN.

10. You will need to re-enter the Paper Advance Calibration submenu and scroll to “Scan Calibration Pattern” and press **Enter**.

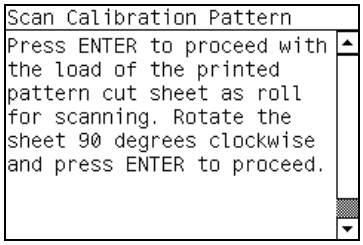



11. When the following message appears on the front panel, you must select whether you would like to continue with the calibration by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.




12. A message will appear advising you that you will need to load the Calibration Pattern in to the Printer. Make sure that you rotate the printed pattern 90° clockwise and reload it printed-side down, so that the black arrows go into the printer first. Press the **Enter** key to continue.

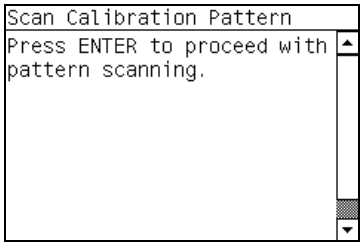
**NOTE:** Take note that the Calibration Pattern will be loaded as a Roll and NOT as a Sheet.


Scan Calibration Pattern
Press ENTER to proceed with the load of the printed pattern cut sheet as roll for scanning. Rotate the sheet 90 degrees clockwise and press ENTER to proceed.

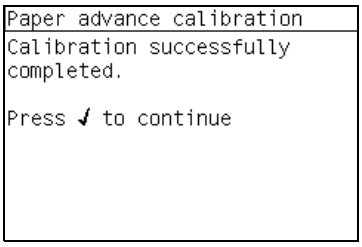
**NOTE:** Only scan the Calibration Pattern in the Printer that was used to actually print it. Using the Calibration in a different Printer could cause it to experience media advance problems. After scanning the Calibration Pattern, it should be discarded.

**NOTE:** When Loading the Calibration Pattern, use the Cutter blade on the Print Platen to align the edge of the sheet. If you follow this advise, you will prevent the cutter from cutting a section of the Calibration Pattern, which could cause the Calibration to fail.

13. Load the Calibration Pattern following the instructions on the Front Panel. Once the Calibration Pattern is loaded correctly, the following message will be displayed on the Front Panel. Press the **Enter** key to continue.




14. The Printer will scan the Calibration Pattern which could take several minutes. Once the calibration is completed successfully, the following message will be displayed on the Front Panel. Press the **Enter** key to continue.




If the Paper Advance Calibration fails for any reason, a warning message will appear on the Front Panel. In this case, try the following:

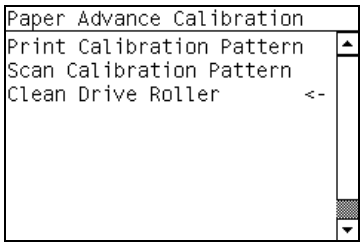
- Check that the Calibration Pattern was not incorrectly cut (trimming the actual pattern) during the media load process. If this is the case, perform the Paper Advance Calibration again from **step 1**.
- Perform a Line Sensor Calibration (⇒ See page 163) and then re-scan the Calibration pattern.
- Replace the Line Sensor ⇒ See page 390.

- If the problem continues, replace the Media-Axis Motor ⇒ See page 349.

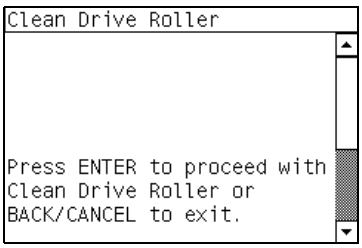
**NOTE:** After the Paper Advance Calibration has been performed correctly, you MUST perform the Clean Drive Roller procedure. If this is NOT done, the Printer will not perform correctly and could cause Print Quality problems.

**NOTE:** Before starting the Clean Drive Roller procedure, make sure you first load media into the Printer that the customer will normally use to print.

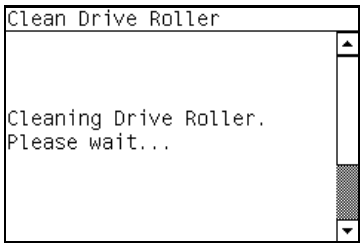
15. You will need to re-enter the Paper Advance Calibration submenu and scroll to "Clean Drive Roller" and press **Enter**.




16. When the following message appears on the front panel, you must select whether you would like to continue with the cleaning of the Drive Roller by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.




17. The Printer will begin the Drive Roller Cleaning procedure. This could take several minutes during which the following message will be displayed on the Front Panel.




## 3. Drop Detector Calibration

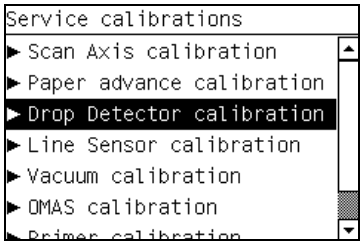
The purpose of this Service Calibration is to calibrate the Drop Detector (located in the Service Station) in relation to the Carriage Assembly.

Perform the Drop Detector Calibration whenever:

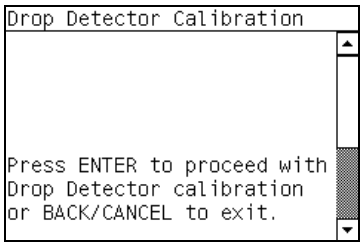
- Drop Detector is disassembled or replaced.

Perform the Drop Detector Calibration as follows:

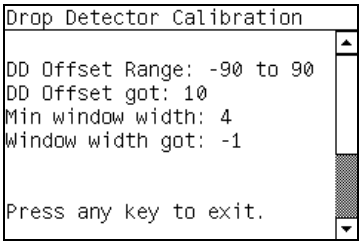
1. In the Service Calibrations submenu, scroll to “Drop Detector Calibration” and press **Enter**.




2. When the following message appears on the front panel, you must select whether you would like to continue with the calibration by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.




3. The Printer will start to calibrate the Drop Detector. Once the Drop Detector has been calibrated, the results will be displayed on the Front Panel. Press any key on the Front Panel to finish the calibration.


Drop Detector Calibration
DD Offset Range: -90 to 90
DD Offset got: 10
Min window width: 4
Window width got: -1
Press any key to exit.

4. Once the calibration is completed, OK will be displayed on the Front Panel.

## 4. Line Sensor Calibration

The purpose of this Service Calibration is to calibrate the intensity of the line sensor in the Carriage PCA. An incorrect calibration can result in edge-detection failures during media loading and incorrect reading of prints that are used for alignment or calibration.

Perform the Line Sensor Calibration whenever:

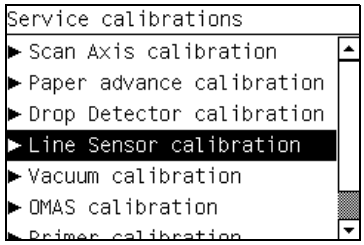
- Edge detect procedure fails during media loading.
- Carriage is disassembled or replaced.
- Line Sensor is disassembled or replaced.
- Banding is detected in prints.
- Misalignment between colors is detected.

Perform the Line Sensor Calibration as follows:

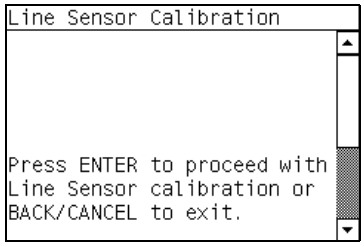
**NOTE:** Make sure you load one of the following media into the Printer before performing this calibration:

- HP Bond Paper.
- HP Glossy Media.
- HP Coated Paper.
- HP Productivity Photo Gloss.
- HP Heavyweight Coated Paper.
- HP Super Heavyweight Coated Paper.
- HP Bright White Inkjet Paper.

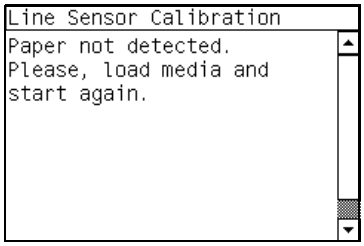
1. In the Service Calibrations submenu, scroll to “Line Sensor Calibration” and press **Enter**.




2. When the following message appears on the front panel, you must select whether you would like to continue with the calibration by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.




3. If media is not loaded, the following message appears on the front panel. Load media in to the Printer and start again from **step 1**.



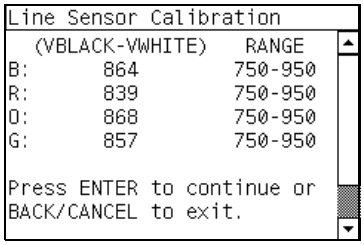

Before continuing, the Printer will check the following:

- The Media Lever is in the lowered position.
- The correct paper type is loaded (check list on previous page).
- The correct paper size (minimum paper size 24 inches).

If these conditions are **not** met, a warning will be displayed on the Front Panel and you will need to restart the Calibration from **step 1**.

**NOTE:** Make sure you keep your hands away from the Print Platen as the Carriage will be moving at high speed and you could injure yourself or damage the Carriage Assembly.

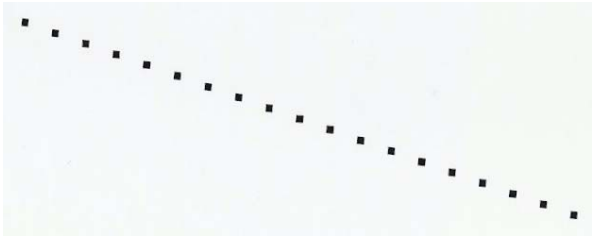
4. The Printer will start to calibrate the Line Sensor. Once the Line Sensor has been calibrated, the results will be displayed on the Front Panel. Press Enter to continue or press **Back** or **Cancel** to exit the calibration.



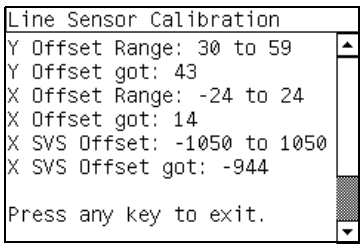

If the values are not within the range specified, an error will appear on the Front Panel. In this case, try the following:

- Try the Scan-Axis Calibration again.
- Replace the Line Sensor ⇒ See page 390.

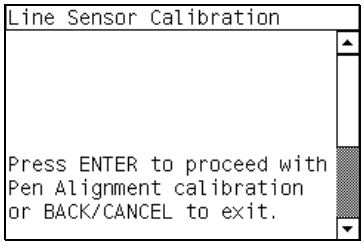
5. The Printer will start to calibrate the Line Sensor position to the Black Printhead. It will print a line of black dots and then scan them:



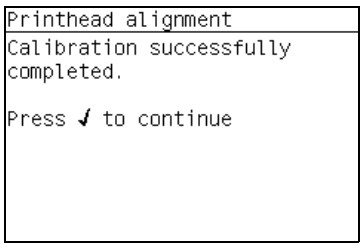
6. Once the Line Sensor has been calibrated, the results will be displayed on the Front Panel. Press **Enter** to finish the calibration or press **Back** or **Cancel** to exit the calibration.


Line Sensor Calibration
Y Offset Range: 30 to 59
Y Offset got: 43
X Offset Range: -24 to 24
X Offset got: 14
X SVS Offset: -1050 to 1050
X SVS Offset got: -944
Press any key to exit.

7. The Printer will now perform the Printhead Alignment. When the following message appears on the front panel, you must select whether you would like to continue with the calibration by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.

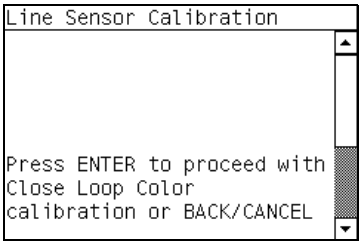


8. Once the Printhead Alignment is completed, the following message will be displayed on the Front Panel. Press the **Enter** key to continue.

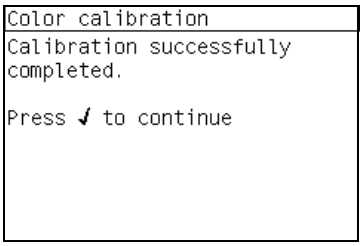



- If the Printhead Alignment fails for any reason, a warning message will appear on the Front Panel. In this case, try the following:
- Enter the Front Panel menu and retry the Printhead Alignment. If the Alignment completes successfully, then perform the Color Calibration.
- If the Alignment fails again, check the Alignment pattern to see if any of the Printheads are printing incorrectly. If necessary, perform a Printhead Recovery through the Front Panel and retry the Printhead Alignment.

9. The Printer will now perform the Color Calibration. When the following message appears on the front panel, you must select whether you would like to continue with the calibration by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.




10. Once the Color Calibration is completed, the following message will be displayed on the Front Panel. Press the **Enter** key to continue.




All CLC profiles are deleted so you will need to perform Color Calibration again for every new media that is loaded in to the Printer.

If the Color Calibration fails for any reason, a warning message will appear on the Front Panel. In this case, try the following:

- Enter the Front Panel menu and retry the Color calibration.
- If the Calibration fails again, check the Calibration pattern to see if any of the Printheads are printing incorrectly. If necessary, perform a Printhead Recovery through the Front Panel and retry the Calibration.

11. Once the complete Line Sensor calibration is completed successfully, OK will be displayed on the Front Panel.

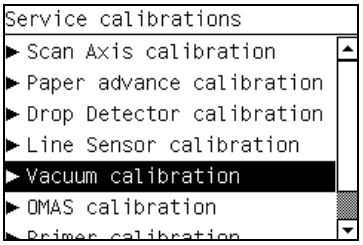
## 5. Vacuum Calibration

The purpose of this Service Calibration is to set the default nominal and real values of the Vacuum Fan Assembly.

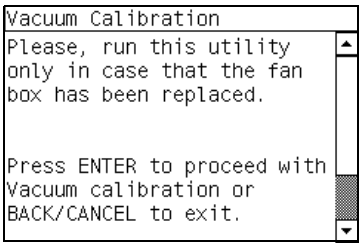
**NOTE:** This Service Calibration should ONLY be performed when the Vacuum Fan Assembly has been replaced.

Perform the Vacuum Calibration as follows:

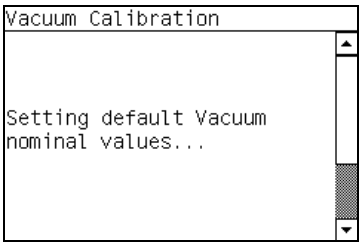
1. In the Service Calibrations submenu, scroll to “Vacuum Calibration” and press **Enter**.




2. When the following message appears on the front panel, you must select whether you would like to continue with the calibration by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.


Vacuum Calibration
Please, run this utility only in case that the fan box has been replaced.
Press ENTER to proceed with Vacuum calibration or BACK/CANCEL to exit.

3. The Printer will set the default nominal and real values of the Vacuum Fan.




4. Once the calibration is completed, OK will be displayed on the Front Panel.

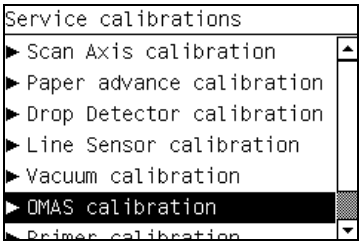
## 6. OMAS Calibration

The purpose of this Service Calibration is to calibrate the OMAS Module. The calibration process consists of printing a special calibration plot and then scanning it with the printer.The scanned result values are compared with the actual printed values to obtain a PASS/FAIL result.

Perform the OMAS Module Calibration as follows:

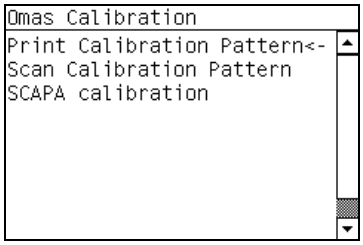
**NOTE:** In order to perform this Calibration, you should order the Paper Advance Calibration Kit (Part Number Q1273-60296) which contains two cut sheets of HP Universal Instant-dry Gloss Photo media (36-inches wide by 42-inches long).

- In the Service Calibrations submenu, scroll to “OMAS Calibration” and press **Enter**.

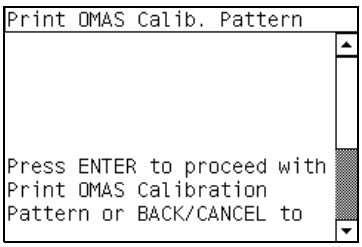


## Print OMAS Calibration Pattern

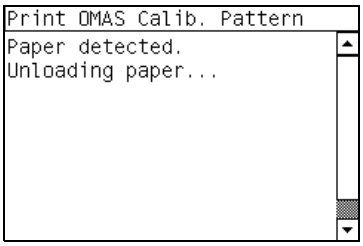
1. In the OMAS Calibration submenu, scroll to “Print Calibration Pattern” and press **Enter**.



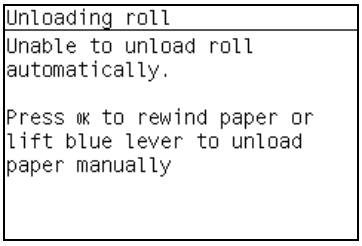

2. When the following message appears on the front panel, you must select whether you would like to continue with the calibration by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.




3. If media is already loaded, the following message appears on the front panel and the media is unloaded.

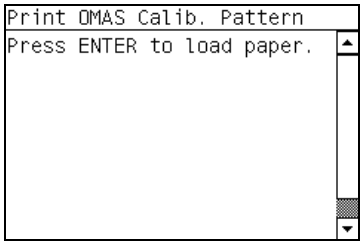



4. If the media cannot be unloaded automatically, the Front Panel will show the following message.



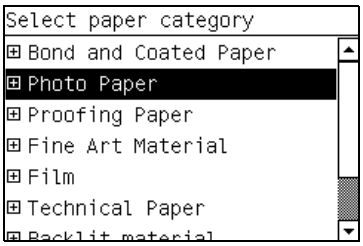

5. Follow the instructions and unload the media.
6. The Front Panel prompts you to load media.

**NOTE:** During this calibration process you have to load the media with the Carriage positioned in the print path.

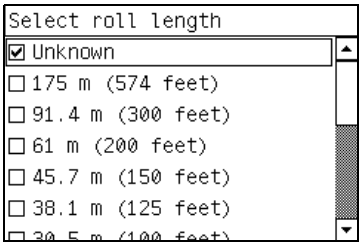



- Raise the Media Lever.
- Load the media.
- Lower the medial lever.

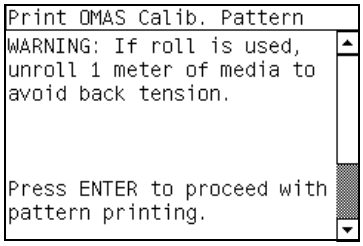
7. Select the media (HP Universal ID gloss).



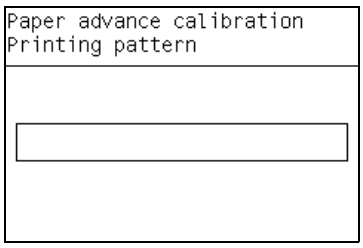

8. Select the media length.



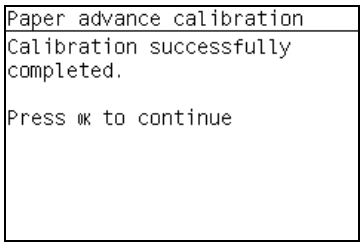

9. The media calibration process starts and front panel shows the following messages:
   - Calibrating paper advance.
   - Trimming roll edge. Please wait.
10. The Front Panel then prompt you to unroll 1 meter of media to avoid back tension. Unroll 1 meter of media and press **Enter**.


Print OMAS Calib. Pattern
WARNING: If roll is used,
unroll 1 meter of media to
avoid back tension.
Press ENTER to proceed with
pattern printing.

11. The Printer will start to print the OMAS Calibration Pattern. This could take several minutes during which the following message will be displayed on the Front Panel.




12. Once the OMAS Calibration Pattern has been printed successfully, the following message will be displayed on the Front panel. Press the **Enter** key to continue.




If the OMAS Calibration fails for any reason, a warning message will appear on the Front Panel. In this case, try the following:

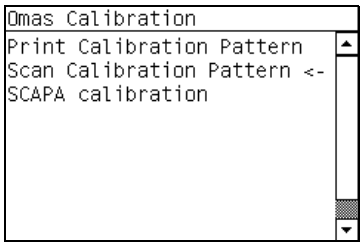
- Retry the Paper Advance Calibration.

**NOTE:** Remove the pattern from the printer and leave it to dry for a few minutes before continuing with the Calibration.

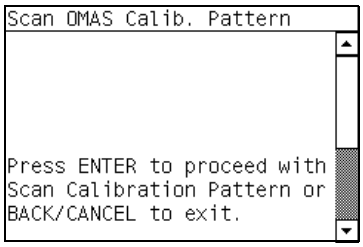
**NOTE:** MAKE SURE NO MEDIA IS LOADED INTO THE PRINTER BEFORE STARTING TO SCAN THE OMAS CALIBRATION PATTERN.

## Scan OMAS Calibration Pattern

1. You will need to re-enter the OMAS Calibration submenu and scroll to “Scan Calibration Pattern” and press **Enter**.

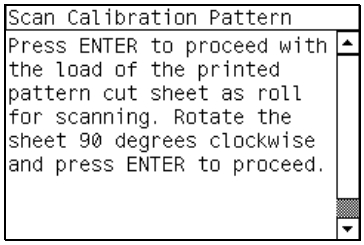



2. When the following message appears on the front panel, you must select whether you would like to continue with the calibration by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.

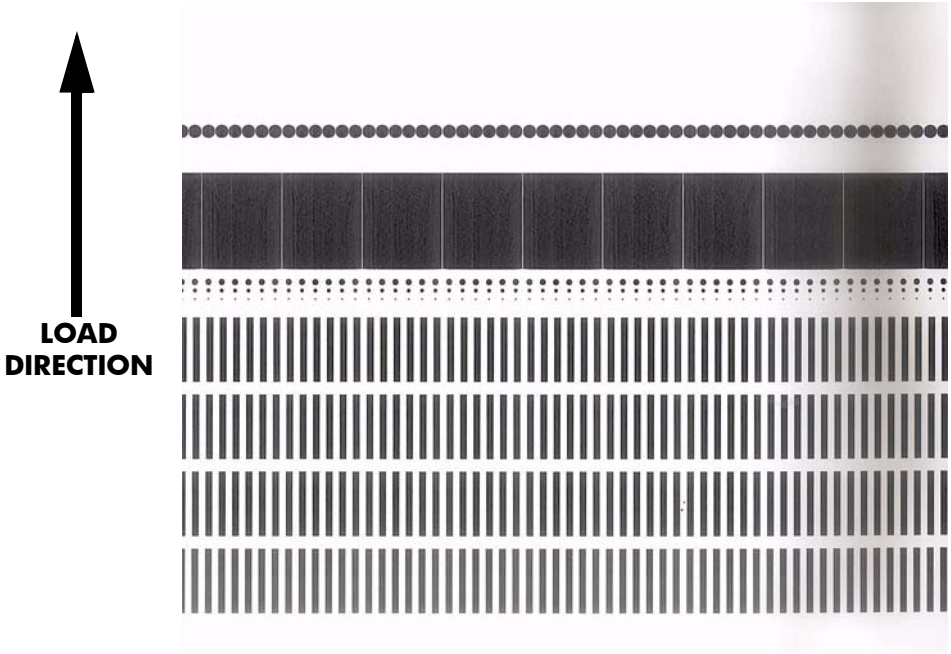


3. A message will appear advising you that you will need to load the OMAS Calibration Pattern in to the Printer. Make sure that you rotate the printed pattern 90° clockwise and reload it printed-side down. Press the **Enter** key to continue.

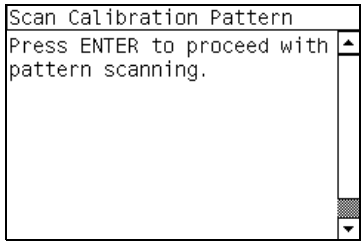
**NOTE:** Take note that the OMAS Calibration Pattern will be loaded as a Roll and NOT as a Sheet.


Scan Calibration Pattern
Press ENTER to proceed with the load of the printed pattern cut sheet as roll for scanning. Rotate the sheet 90 degrees clockwise and press ENTER to proceed.

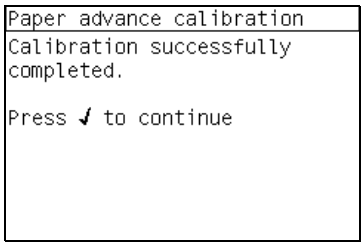
4. Load the OMAS Calibration Pattern following the instructions on the Front Panel.




5. Once the OMAS Calibration Pattern is loaded correctly, the following message will be displayed on the Front Panel. Press the **Enter** key to continue.



6. The Printer will scan the OMAS Calibration Pattern which could take several minutes. Once the calibration is completed successfully, the following message will be displayed on the Front Panel. Press the **Enter** key to continue.




If the OMAS Calibration fails for any reason, a warning message will appear on the Front Panel. In this case, try the following:

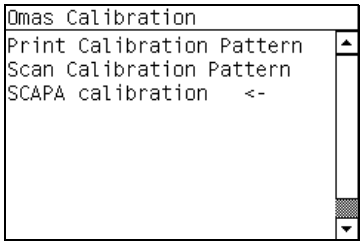
- Check that the OMAS Calibration Pattern was not incorrectly cut (trimming the actual pattern) during the media load process. If this is the case, perform the OMAS Calibration again from **step 1**.
- Replace the OMAS Sensor ⇒ See page 351.
- Replace the OMAS Controller Card ⇒ See page 362.
- If the problem continues, replace the Media-Axis Motor ⇒ See page 349.

## SCAPA Calibration

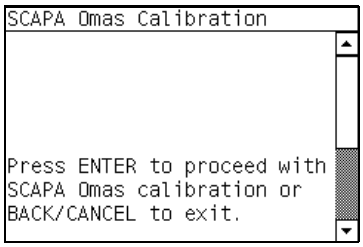
The purpose of this calibration is to calibrate the Scan Axis Pen Alignment (SCAPA) compensation/ adjustment factor.

**NOTE:** For this calibration process you will need to have media loaded in the Printer.

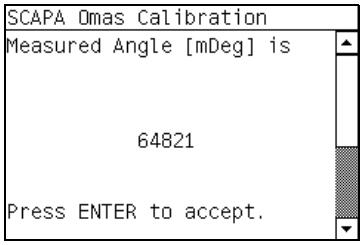
1. You will need to re-enter the OMAS Calibration submenu and scroll to “Scan Calibration Pattern” and press **Enter**.




2. When the following message appears on the front panel, you must select whether you would like to continue with the calibration by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.



3. The calibration process will execute and the front panel will display the result in mDeg.




4. Press Enter to accept the result.

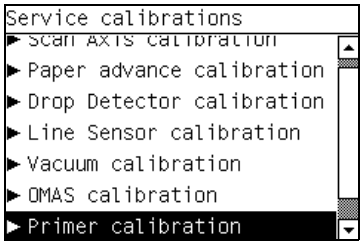
## 7. Primer Calibration

The purpose of this Service Calibration compute the offset error between the optimum position of the Primer Assembly with respect to the Carriage.

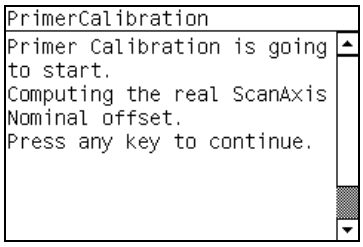
The calibration is a visual procedure so you will have to remove the Right Hand cover before starting.

Perform the Primer Assembly as follows:

1. Remove the Right Cover ⇒ See page 264).
2. Block the Maintenance Cartridge door switch in the closed position.
3. In the Service Calibrations submenu, scroll to “Primer Calibration” and press **Enter**.

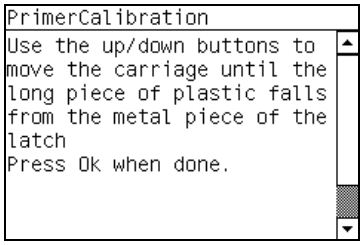



4. When the following message appears on the front panel, you must press any key to continue.

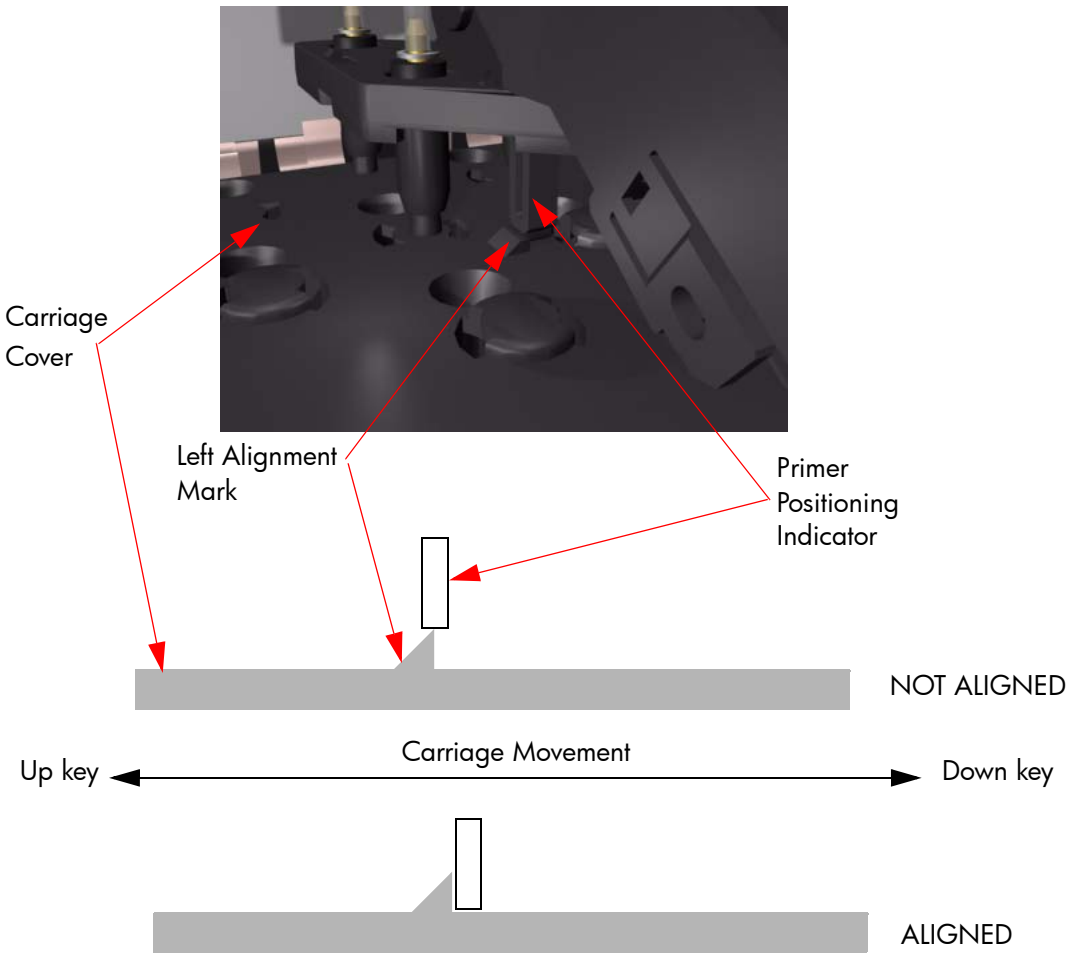

PrimerCalibration
Primer Calibration is going to start.
Computing the real ScanAxis Nominal offset.
Press any key to continue.

5. The calibration process starts and front panel shows the following messages:
   - Homing Primer.
   - Uncapping SVS.
   - Homing Carriage.
   - Computing the Left Scan-Axis Offset.

6. Once the Left Scan-Axis Offset has been calculated the Front Panel prompts you use the **Up**/**Down** keys to move the carriage until the RIGHT edge of the Left Alignment Mark on the Carriage Cover is perfectly aligned with the Primer positioning indicator.

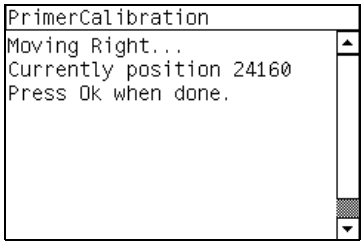

PrimerCalibration
Use the up/down buttons to move the carriage until the long piece of plastic falls from the metal piece of the latch
Press Ok when done.

7. Use the **Up** (move left) and **Down** (move right) keys to move the Carriage until the RIGHT edge of the Left Alignment Mark is correctly aligned with the Primer Positioning Indicator and press **ENTER**.

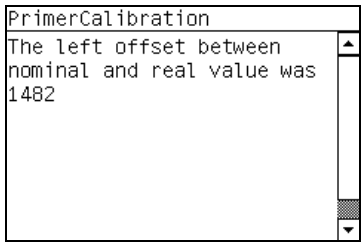



**NOTE:** To more easily detect the exact position while aligning the Carriage to the Primer it is a good idea to lightly press down on the Primer while you are moving the Carriage.

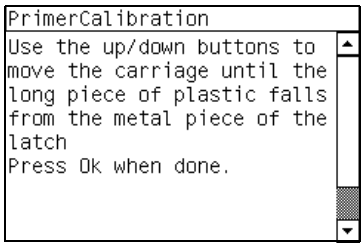
While the Carriage is moving the Front Panel shows the actual position and the direction of movement and prompts you to press **ENTER** when done.



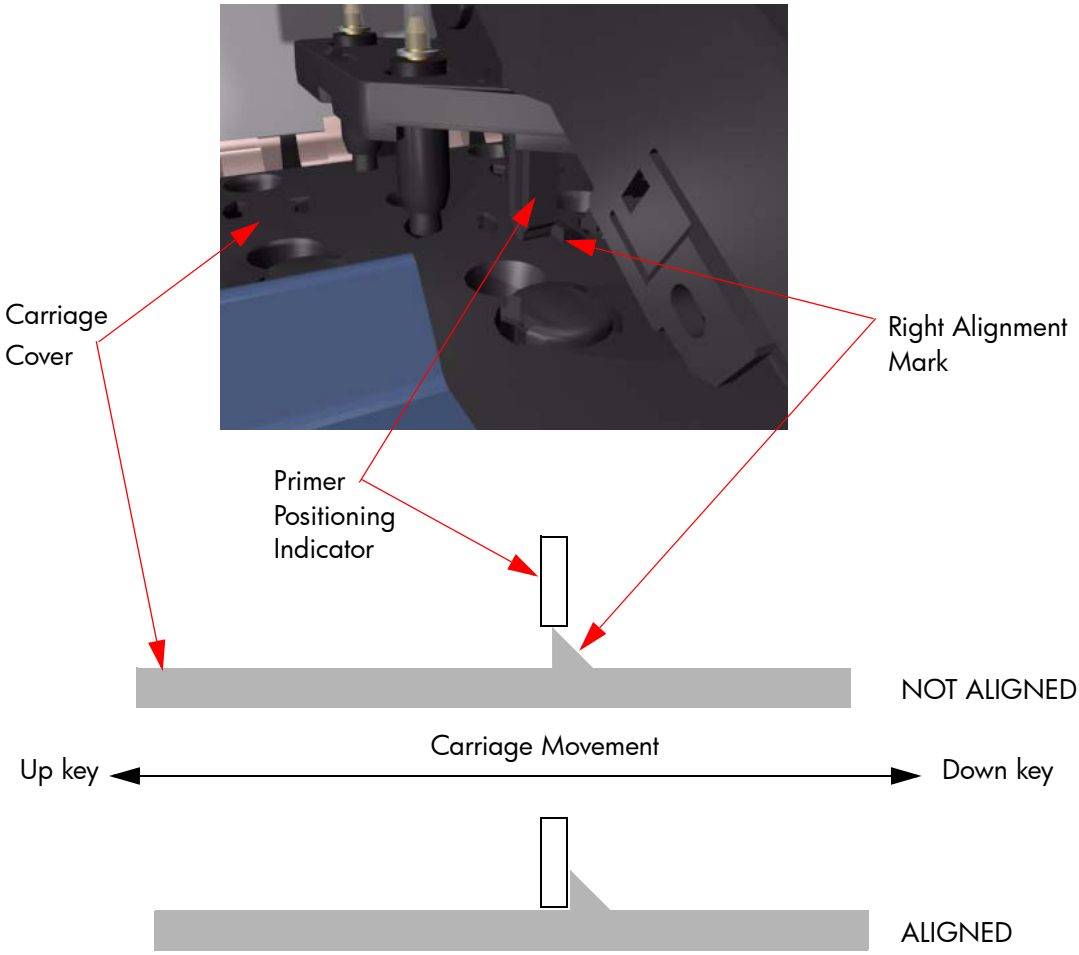

8. The Front Panel shows the actual left offset value and the system calculates the Fight Scan-Axis Offset.




9. Once the Right Scan-Axis Offset has been calculated the Front Panel prompts you use the **Up**/**Down** keys to move the carriage until the LEFT edge of the Right Alignment Mark is correctly aligned with the Primer Positioning Indicator and press **ENTER**.

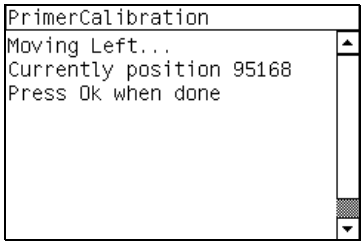


10. Use the **Up** and **Down** keys to move the Carriage until the LEFT edge of the Right Alignment Mark is correctly aligned with the Primer Positioning Indicator and press **ENTER**.

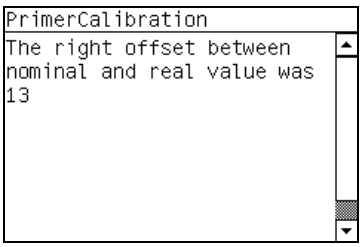



**NOTE:** To more easily detect the exact position while aligning the Carriage to the Primer it is a good idea to lightly press down on the Primer while you are moving the Carriage.

While the Carriage is moving the Front Panel shows the actual position and the direction of movement and prompts you to press **ENTER** when done.




11. The Front Panel shows the actual right offset value.



12. The calibration process continues and front panel shows the following messages as the new norminal offset value is read and saved to NVM:
    - Reading Nominal Offset.
    - New Nominal Offset is [ActualValue].
    - Saving to nvm.
    - Saved.
13. Once the calibration is completed, OK will be displayed on the Front Panel.
14. Replace the Right Hand Cover (See page 264).

## 8. Platen Blue Line Calibration

The purpose of this Service Calibration is to calibrate the blue line which is marked on the Print Platen.

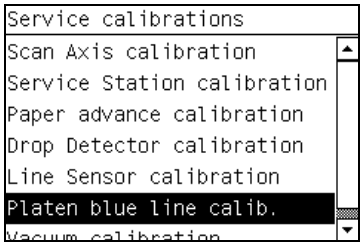
**NOTE:** Make sure you unload media before performing this calibration.

Perform the Platen Blue Line Calibration whenever:

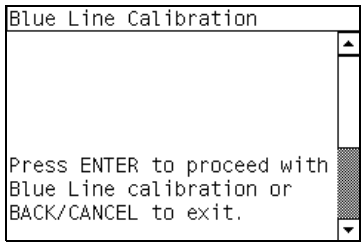
- Center Platen is disassembled or replaced.

Perform the Platen Blue Line Calibration as follows:

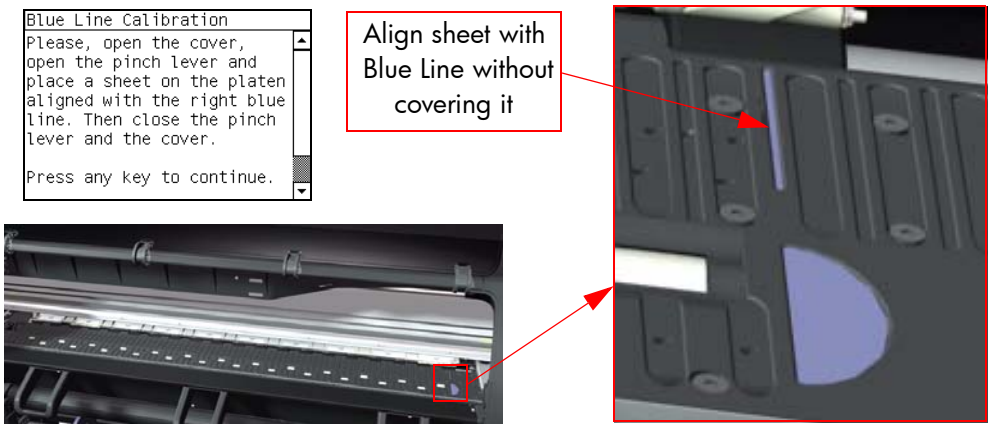
1. In the Service Calibrations submenu, scroll to “Platen blue line calib.” and press **Enter**.



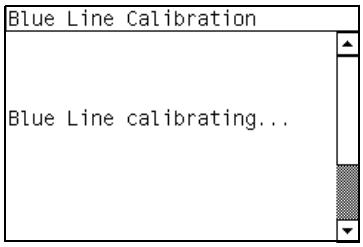

2. When the following message appears on the front panel, you must select whether you would like to continue with the calibration by pressing the **Enter** key. Press **Back** or **Cancel** to exit the calibration.



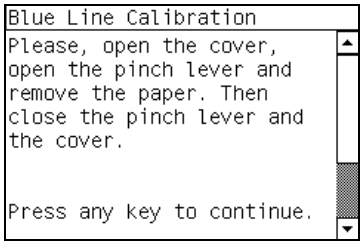
3. A message will appear on the Front Panel requesting you to raise the Media Lever and to place a sheet of white media on the Print Platen aligned with the Blue Line. Press the **Enter** key to continue once the sheet is in placed.


Blue Line Calibration
Please, open the cover, open the pinch lever and place a sheet on the platen aligned with the right blue line. Then close the pinch lever and the cover.
Press any key to continue.
Align sheet with Blue Line without covering it

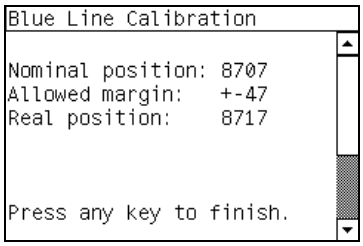
4. The Printer will start to calibrate the Blue Line and the following message will be displayed on the Front Panel.




5. Once the Blue Line has been calibrated, the following message will be displayed on the Front Panel. Open the Window and remove the sheet of media that you had placed on the Print Platen. Press any key on the Front Panel to continue once the sheet of media has been removed.


Blue Line Calibration
Please, open the cover, open the pinch lever and remove the paper. Then close the pinch lever and the cover.
Press any key to continue.

6. The results of the calibration will be displayed on the Front Panel. Press any key on the Front Panel to finish the calibration.




7. Once the calibration is completed, OK will be displayed on the Front Panel.

# 6 Print Quality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# Initial Print Quality Troubleshooting Actions

For the majority of print quality problems, a Call Agent can try to troubleshoot the Printer by requesting that the customer performs the following troubleshooting actions. Using this process, most problems can resolved without the need of an on-site visit.

Perform the following actions in the order described:

1. Printer Configuration:
   - Make sure that the **paper type** selected in the Front Panel is the same as the paper type loaded into the Printer. To check this, use the View loaded paper key on the front panel. At the same time, check that the paper type has been calibrated. Also make sure that the paper type selected in your software is the same as the paper type loaded into the printer.
   - Check that the customer is printing on the correct side of the paper.
   - Check that the customer is using the most appropriate print-quality settings. If **Fast**, **Normal-Fast** or even **Normal** have been selected, the customer may not achieve the most accurate colors. Select the print-quality setting to **Best**. See also "Select print quality" in the Users Guide.

**NOTE:** If the customer has set the print quality with the printer driver or with the Embedded Web Server, this will override a print-quality setting from the front panel.

**NOTE:** You cannot change the print quality of pages that the printer is already receiving or has already received (even if they have not started to print yet).

   - Dry time should be set to "Optimal".
2. Check if the latest version of the firmware is installed. If not, install the latest firmware revision.
3. Check that your ink cartridges and printheads have not passed their expiration dates.
4. Perform Printhead recovery (**Ink Menu** > **Image Quality Maintenance** > **Clean Printheads**).
5. Perform the Printhead Alignment (**Ink Menu** > **Image Quality Maintenance** > **Align Printheads**).
6. If a new media type has been created from the color center, check that the correct parent media type has been used. This is because there are some 'high ink' and 'low ink' media types for some categories of media used, such as the photo category.
7. Perform the Color Calibration (**Ink Menu** >**Image quality maintenance** > **Calibrate color)**.
8. If you are using Application Color Management check the following:
   - Ensure the within the color tab of the driver, '**Application manage colors**' has been selected.
   - That the color profile you are using in the application corresponds to the paper type and print-quality settings.
   - In addition for PostScript printers check the following:
     - If you have doubts about the installed 'output' ICC profiles on the computer, perform the following from the color center -> **Manage papers** -> **'Update profiles'**.
     - If you need to create a color profile, go through the color center -> '**Create and Install ICC profile**'

- If you have any doubt about the created ICC media profile, recreate it, or re-install the default one (from the color center, '**Create and Install ICC profile**' or '**Manage paper** -> **restore Factory ICC profile**').

9. If the issue is the color difference between the printer and the monitor, ensure that the monitor has been calibrated, refer the customer to the HP LFP Knowledge Center for details on how to perform this, use the url: http://www.hp.com/go/knowledge_center/djz6100.
10. Check that your environmental conditions (temperature, humidity) are in the recommended range. Avoid touching the paper while printing is in progress.
11. If Pantone Colorsare inaccurate refer to the specific chapter within the User's Guide: Chapter 7. The section is called 'HP Professonal PANTONE Emulation'.
12. Color accuracy using EPS or PDF images in page layout aplications such as Adobe InDesign and QuiarkXpressdo not support color managment of EPS, PDF or Grayscale files.

    If these types of files have to be used, try to ensure that the EPS, PDF, or grayscale images are already in the same color space that are to be used later on in Adobe InDesign or QuarkXPress. For example, if the final objective is to print the job in a press that follows the SWOP standard, at the time of creating the EPS, PDF or grayscale the image should be converted into SWOP.
13. Check the procedures on "Colors are inaccurate" on page 206.

**NOTE:** The HP LFP Knowledge Center is an excellent source of color accuracy information, the database includes step-by-step procedures on achieving the best color image quality when using various applications. Use the the url: http://www.hp.com/go/knowledge_center/djz6100.

# How to Use the Image Quality Service Diagnostic Print

## What is the Image Quality Service Diagnostic Print?

The Printer contains a series of internal Image Quality Tests which help you to diagnose image quality defects. The print is available from the Service Utility Menu>Diagnostic Print and is divided into three parts:

- Printhead Reliability Test: The purpose of this test is to identify which Printhead is faulty.
- Printhead Alignment Test: This test is designed to check any color-to-color and bi-directional misalignment the printer may have.
- Printheads and Paper Advance test: This test is designed to check whether the Printheads and the Paper Advance Mechanism are working correctly.

The diagnostic print is available in the following options:

1. **Image Quality Service Best:** This plot helps you to diagnose in more detail the possible source of any image quality defects.
2. **Image Quality Service Normal:** This plot is the same as the Image Quality Service Best Plot but uses the Normal Print Mode and does not contain the Printheads Alignment test. This plot can be used to find banding that would be hidden if the Best plot was used.
3. **User plot:** This is the customer's version of the image quality dignostic page. When this is printed now it will reflect the customer's current settings.
4. **Others:** These tests provide more information concerning the IQ defects that could found from the Image Quality Plots:

- Visual Alignment Print.
  Used to check pen alignment reliability.
- Visual Media Advance.
  Used to check advance reliability
- Force Drop Detection.
  Used to reset the nozzle health historic data base and force new drop detection.
- Plot for escalation only.
  Used to check more details of the Nozzle Health.
- Paper Advance Sensor.
  This option allows the Paper Advance Sensor to be disabled and forces the advance control to use the analog encoder system. The Paper Advance sensor will operate again after the unit has been rebooted.

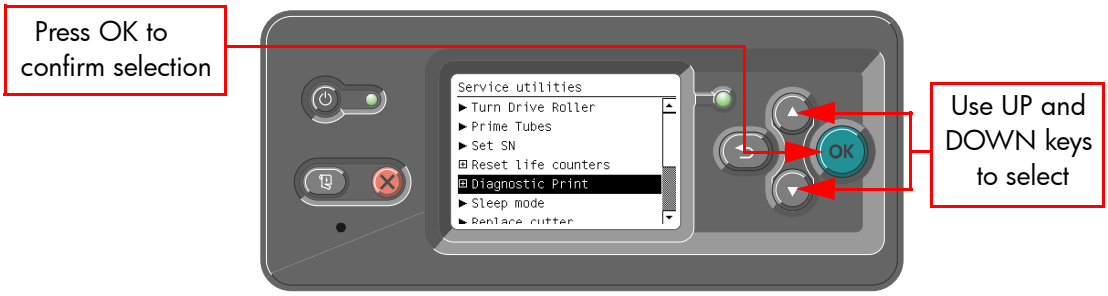
## Considerations for Printing the Diagnostic Print

1. You must have paper loaded
2. Use the same type of paper that the customer was using when they found the image quality problem.
3. If the customer is using non-HP paper and after the Image Quality Test you still have the same image quality problems, change to genuine HP paper and repeat the Image Quality Test.
4. If you do not see any problems with the Image Quality Test, then the problem may not be with the printer itself. The problem may be with the RIP or the driver for example.

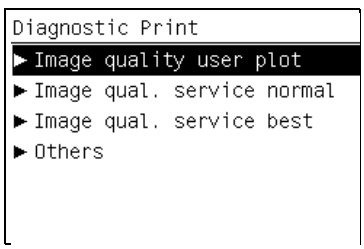
However, if you do see problems with the Image Quality Test then continue with the Advanced Diagnostic procedures which will help you to diagnose the problem.

## Printing the Image Quality Service Print

1. In the Service Utilities submenu, scroll to “Diagnostic Print” and press **Enter**.




2. You will be given an option to print one of the four types of diagnostic prints. Use the Arrows keys to make the selection and press the **Enter** key to start printing the required Diagnostic Print.
   If you selected the “Others”, use the Arrow keys to make the required selection: “Visual Alignment Diagnostics”, “Visual Paper Advanced Diagnostic”, or “Force Drop Detection”, and press the **Enter** key to start printing.



3. Make sure media is loaded, the Pinch Lever is lowered and that the Ink System is correctly installed. Press the **Enter** key to print the Diagnostic Print or press **Back**/**Cancel** to exit without printing the Diagnostic Print.

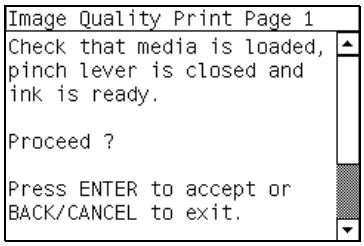


Image Quality Print Page 1
Check that media is loaded, pinch lever is closed and ink is ready.
Proceed ?
Press ENTER to accept or BACK/CANCEL to exit.

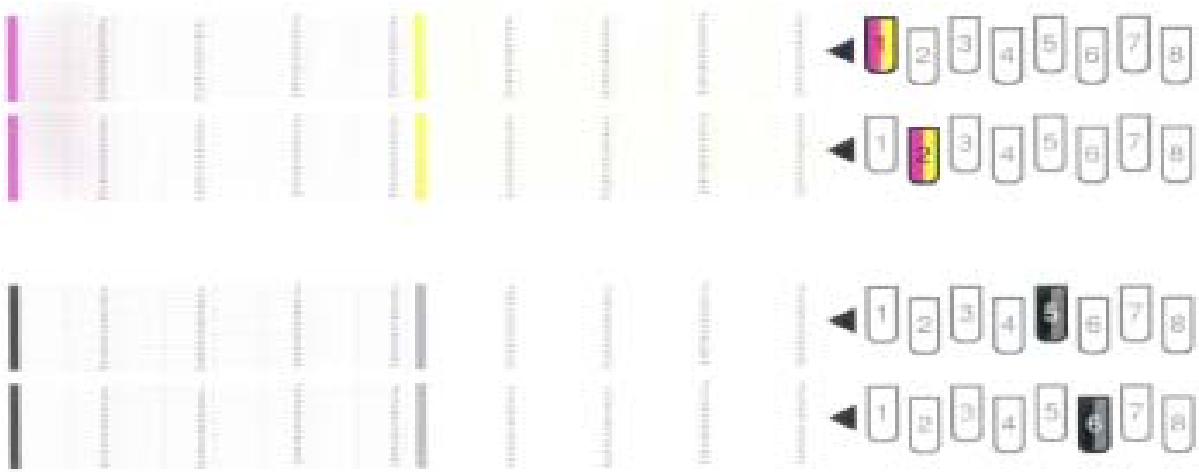
4. The selected Diagnostic Print will now be printed.

## Diagnostic Part 1: Printhead Problems

The Nozzle print test is designed to check if the Printhead nozzles print correctly. The Image Quality Service Best should always be used to print this plot.

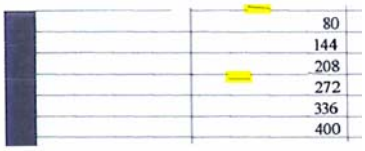
The nozzles check (bottom of the plot) is printed in a one-pass full swath mode. The diagnostics test prints out every single nozzle of each Printhead without applying an error hiding or alignment algorithm.

For each Printhead, you can see both the adjacent and the consecutive nozzles. For every Printhead there is a different horizontal band that can be identified with the help of the template marked with the colors of the Printhead used at the right of every band.



There are a series of numbered stepped diagonal lines. If one or more of the nozzles are malfunctioning or mis-positioned, you will see that the stepped lines are broken or misdirected in one or more places.

This is an example of nozzles outs. You can see the broken or the skewed line, in this case marked in yellow to help you to understand the issue. In the service plot there are no yellow marks.




This is an example of nozzles mis-positioned or malfunctioning. You can see the broken or the skewed line, in this case marked in yellow to help you to understand the issue. In the service plot there are no yellow marks.

### Corrective Action

If the printer has nozzle defects, it does not mean that you will not get perfect print quality results because the Printer can automatically compensate for this so there is no need to replace the Printhead.

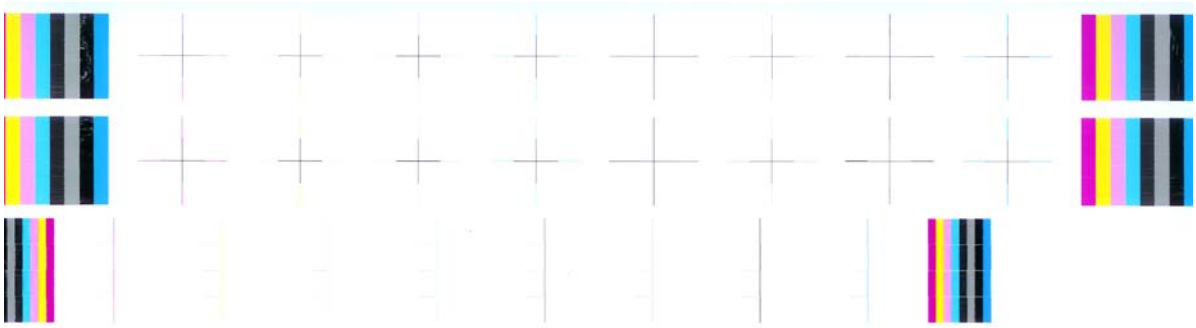
The method of improving Nozzle Defects is to:

1. To clean the printheads, go to the printer's front panel and select the ink, then Image quality maintenance > Clean printheads. Then select which printheads you would like cleaned. You can clean all of the printheads or only some of them. Your choices are:
   - Clean all
   - Clean M-Y
   - Clean LM-LC
   - Clean PK-LG
   - Clean MK-C

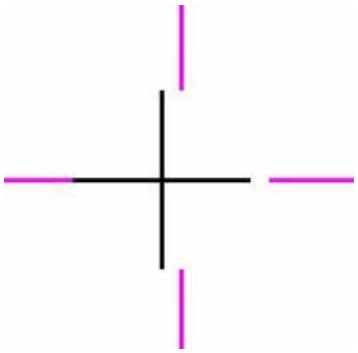
   Cleaning all of the printheads takes about five minutes. Cleaning any two printheads takes about three minutes. Purging the ink takes about six minutes.
2. Reprint the Printhead Nozzles Test Plot to verify that the defective nozzles have been corrected.
3. If the problem continuous, replace the defective Printhead.

## Diagnostic Part 2: Alignment Test

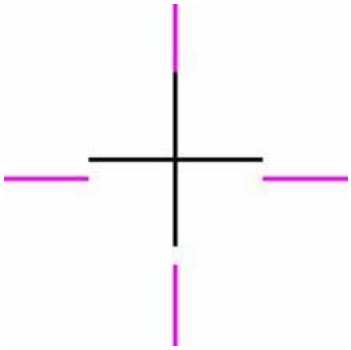
This test is designed to check any color-to-color and bi-directional misalignment the printer may have. The Image Quality Service Best should always be used to print this plot.



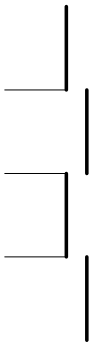
1. If the Printer is experiencing **horizontal** misalignment problems, the Alignment Test will show something like this:



2. If the Printer is experiencing **vertical** misalignment problems, the Alignment Test will show something like this:



3. If the Printer is experiencing **bi-directional** misalignment problems, the Alignment Test will show something like this:



### Corrective Action

1. Perform a Printhead Alignment, using the same paper type with which you were experiencing unacceptable image quality, if feasible (some paper types are not suitable for Printhead Alignment).

## Diagnostic Part 3: Printheads & Paper Advance Test

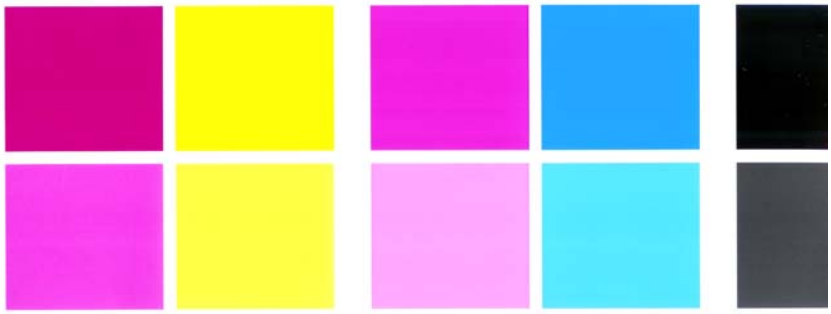
This test is designed to check whether the Printheads and the Paper Advance Mechanism are working correctly. This part of the Image Quality Test should **not** be used to check for color consistency or accuracy.

### Banding

If the Printer is experiencing a banding problem, you will see repetitive horizontal bands within the printed image.

- Dark line banding repeated along the band (from top to bottom at the same distance).
- White line banding repeated along the band (from top to bottom at the same distance).

The plot is printed in Best or Normal mode (according to the menu option selected) with Error Hiding ON. The first top band has 100% ink density patches while the bottom band has 50% ink density.



## Troubleshooting Banding Problems

If banding **does not** occur in ALL the colors, then it is more than likely a Printhead problem. In this case, try the following:

1. Check that the appropriate print quality settings are being used.
2. Recover the printheads using the option through the Front Panel (**Image quality maintenance** > **Clean printheads**). Reprint the Diagnostic Print or the print file and if the problem persists, replace the faulty Printhead.

If banding **does** occur in ALL the colors, then it is more than likely a Paper Advance problem:

- If the bands are light, it means that the paper has advanced too much.
- If the bands are dark, it means that the paper hasn't advanced enough.
- In high quality modes, graininess in ALL colors can indicate problems either with alignment or Paper Advance.

In order to solve any of these problems, try the following:

1. Check that the appropriate print quality settings are being used.
2. Check that the loaded paper is the same type as selected in the printer. Verify this through Front Panel the option (On the Front Panel, select the icon, then **View loaded paper** > **View paper details**).
3. If the customer is using low quality paper, try recommending better quality paper (preferable HP paper). Printer performance can only be guaranteed by using recommended papers.
4. Check the advance with the help of the Visual Paper Advanced Diagnostic.

**NOTE:** If there is white point banding in only one color band and the problem cannot be fixed using the Printhead recoveries, in some cases using the force a drop detection option can fix this issue (see Others Diagnostics: Force Drop Detection).

# No Printing Defects Found in the Diagnostic Print

If all the test patterns from the Diagnostic Print are correct and you still experience Image Quality problems, you can use the following procedures to resolve the problem.

- Visual Alignment Diagnostics.
- Visual Paper Advanced Diagnostic.
- Plot for escalation only

- Force Drop Detection.
- Disable Paper Advance Sensor.

## Visual Alignment Diagnostic Print

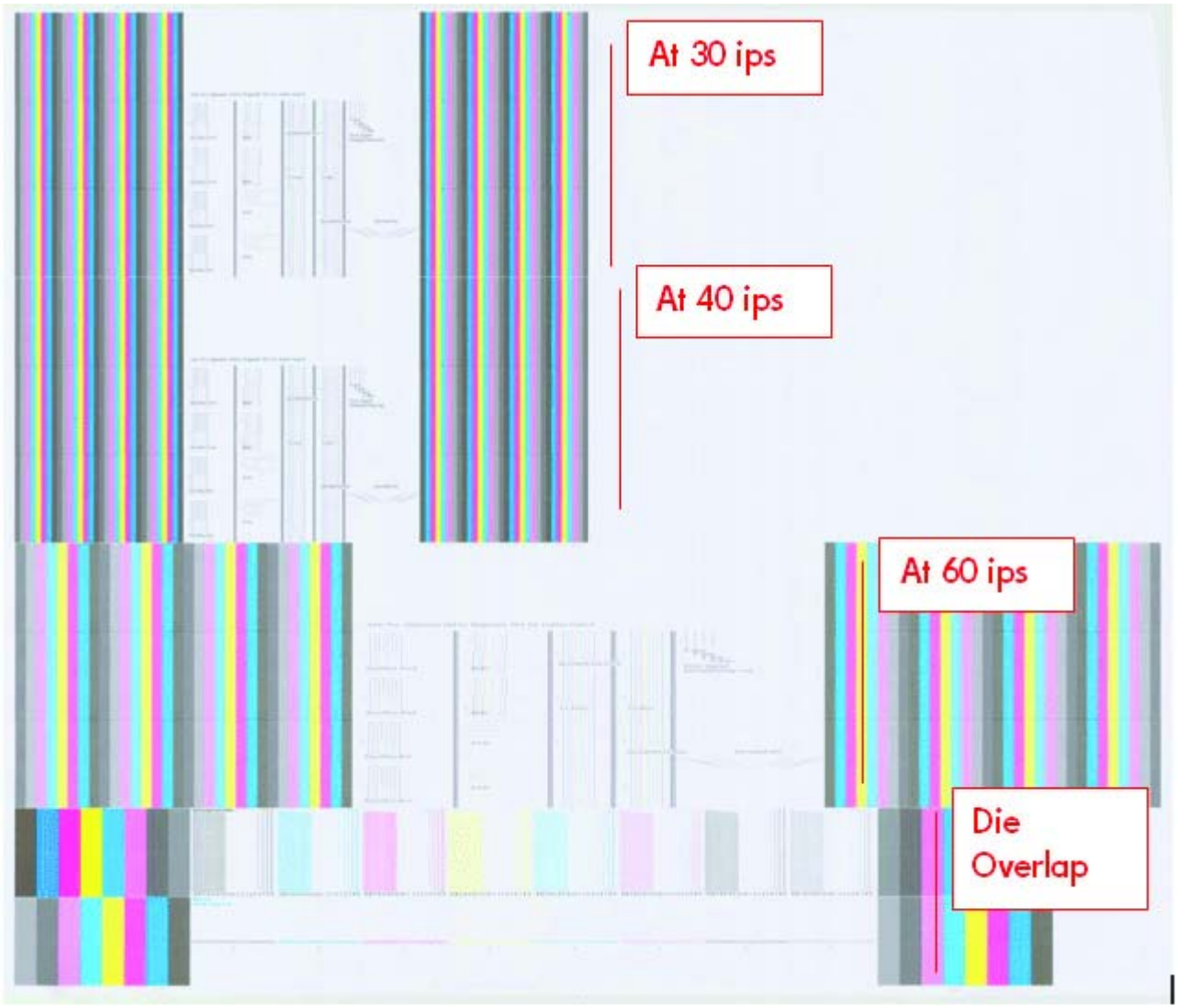
This plot helps you to visually check any alignment problems of the printer.

You use it to precisely measure the alignment error with one dot row accuracy.

The plot is split in four areas. The three first are the same plot printed at different speed: 30, 40 and 60 ips to check most of the pen alignment. To know the print modes associated to the speed see the next table:

| PM by Paper Category | | ips |
|---|---|---|
| **Paper Type Category** | **Quality Setting** | |
| Plain | Fast | 60 |
| | Normal-Fast | 40 |
| | Normal | 30 |
| | Best | 40 |
| Coated | Fast | 30 |
| | Normal-Fast | 40 |
| | Normal | |
| | Best | |
| Heavy and Super-heavy Weight Coated | Fast | 40 |
| | Normal-Fast | |
| | Normal | |
| | Best | |
| Other DFA | Fast | 40 |
| | Normal-Fast | |
| | Normal | |
| | Best | |
| Glossy | Fast | 60 |
| | Normal-Fast | |
| | Normal | |
| | Best | |
| | High Quality | 40 |

The fourth part is to check the same color staggered pen overlap.




## What to see in the Auto Pen Alignment Diagnostics:

1. At the left we have four checks for the pen to pen alignment in scan axis direction (Pen2Pen-Fwd or Pen2Pen-Rev). It is forward and reverse.
   a. The top pattern is related to the front printhead (nearest to the user when doing the pen replacement).
   b. The bottom pattern is related to the rear printhead (more far to the user when doing the pen replacement)

   The area to check is the junction (marked with a "-") of the black with the rest of colors.
2. The bidirectional check is at the top, marked as number 2 (Bidir)
   a. The top pattern is related to the front printhead (nearest to the user when doing the pen replacement).
   b. The bottom pattern is related to the rear printhead (more far to the user when doing the pen replacement)

   Check that the lines are continuous without a gap. The junction is marked with a "-"
3. The pen to pen alignment in paper advance direction (PAD) is marked as number 3.

a. The top pattern is related to the front printhead (nearest to the user when doing the pen replacement).

b. The bottom pattern is related to the rear printhead (more far to the user when doing the pen replacement)

The area to check is the junction (marked with a "-") of the black with the rest of colors.

4. The alignment in scan axis direction between both printhead of the same color is marked as 4a (in forward direction die2dieSAD-Fwd) and 4b (in reverser direction die2dieSAD-Rev).

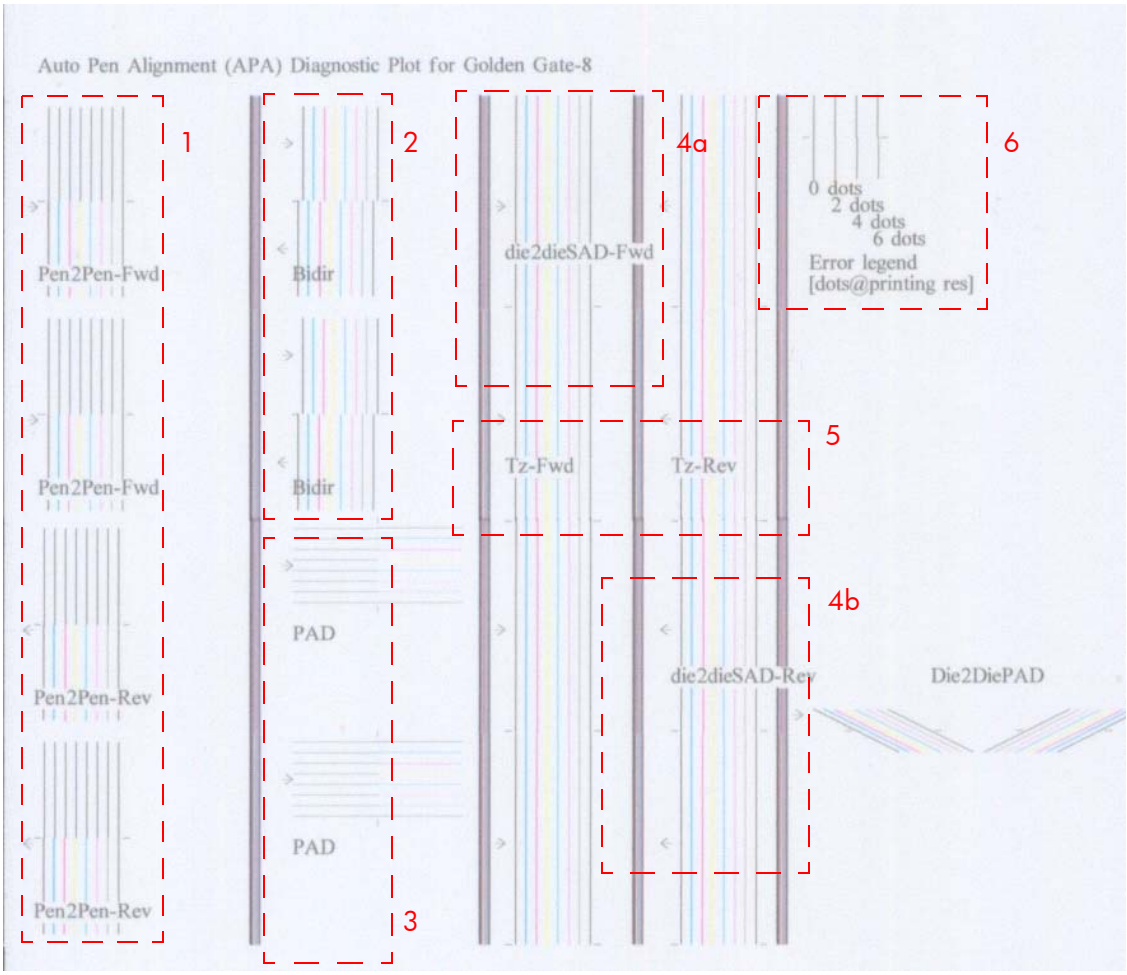
   The area to check is the junction (marked with a "-"). The lines have to be continuous.

5. The ThetaZ of the printhead are checked in the area marked as 5. It checks in forward (Tz-Fwd) and reverse direction (Tz-Rev).

   The area to check is the junction (marked with a "-"). The lines have to be continuous.

6. The area marked as number 6 is a reference legend that shows junction misalignments of 2, 4 and 6 dots. The junction to check has to be below 4 in all the cases. If the error we appreciate is above 4 dots, then realign the printheads again.

   In the next example, the Bidir is above this 4 dots and the unit should be realigned. The rest of the pattern shows a right alignment.



### What to see in the Dye Overlap Alignment.

The area to check is only the bottom junction pattern for all the colors. The clearest band has to be around the 0 (±3 dots). Every band is equal to 1 dot error.

In order to solve any problem in the alignment, try the following:

- Repeat the printhead alignment. Most recommended papers are glossy papers were pen alignment accuracy is best. There are some paper types that are not suitable for Printhead Alignment (transparent, translucent, …)
- If the alignment process shows the message “Printhead alignment may use up to 3m of paper” in the front panel. it is because the OMAS is not working. It can be normal for a few types of papers that cannot be controlled by OMAS. How to check if your paper is OMAS or non-OMAS:

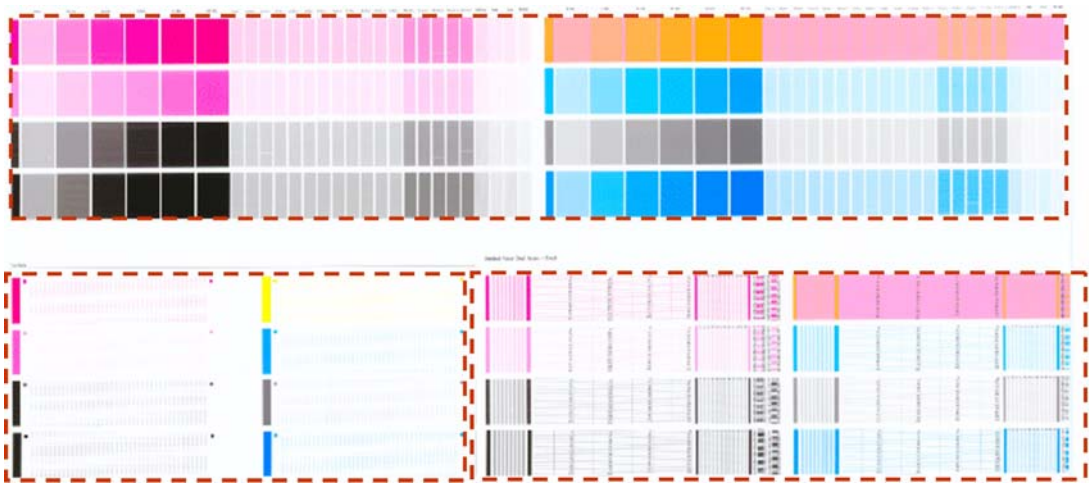
See in the **Service Menu** > **Diagnostic print** > **Others** > **Visual Media Diagnostic**

- If the issue cannot be fixed after repeat the printhead align, the try to clean the Printheads, To clean the printheads, go to the Front Panel and select the icon, then I**mage quality maintenance** > **Clean printheads**.
- If the issue cannot be fixed, then replace the printhead color that is failing in the align check pattern.
- If there is an issue in the ThetaZ and it cannot be fixed, check if the paper is working with OMAS. In that case, the issue could be a bad functionality of the OMAS subsystem. Go to the advance troubleshooting and apply the OMAS process.

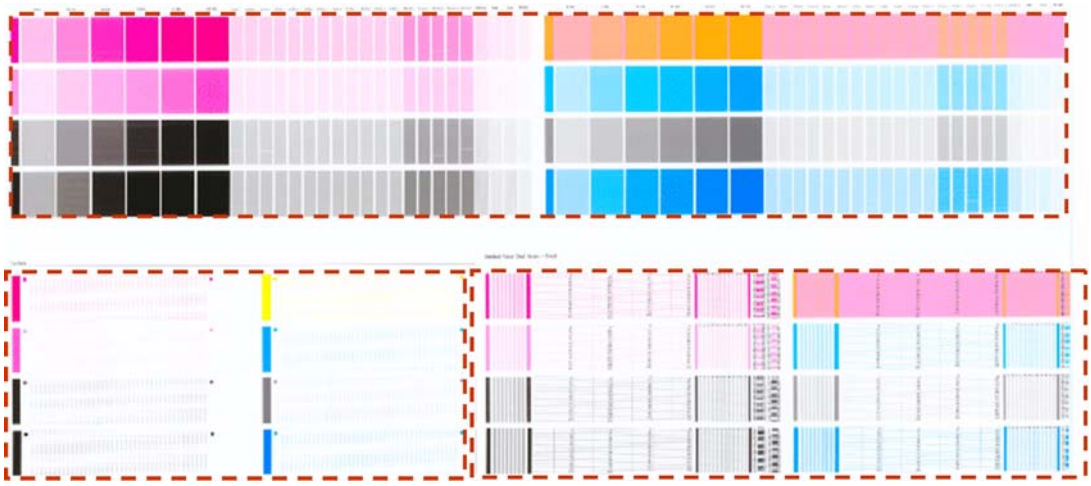
## Plot for escalation only

There are two plots with three parts to every plot. Both plots have the same pattern. The first printed plot refers to the rear printheads (number 1, 3, 5 & 7), while the second plot refer to the front printheads (2, 4, 6 & 8).

The top area is the Variable frequency nozzle health plot with odd/even nozzles separation. This part does not need to be looked at, it is only for escalation purposes.



REAR PRINTHEADS 1-3-5-7



FRONT PRINTHEADS 2-4-6-8

The second part is the bottom left. This part does not need to be looked at, it is only for escalation purposes.

The third part is the bottom right. This test is designed to check if the Printhead nozzles print correctly. The test prints out every single nozzle of each Printhead. No error hiding or Printhead Alignment algorithm is applied. For each Printhead, you can see both the adjacent and the consecutive nozzles.

This is what you would see in this third part if there are nozzles not printing correctly:

1. On the right of each Printhead Nozzle test, there is a series of numbered stepped diagonal lines. If one or more of the nozzles are malfunctioning or mis-positioned, you will see that the stepped lines are broken or misdirected in one or more places.
2. On the left of each Printhead Nozzle test, there is a series of horizontal straight lines. If one or more nozzles are misdirected there will be unequal spaces between the corresponding lines

### To fix issues found in this third part:

**NOTE:** If the printer has nozzle defects, it does not mean that you will not get perfect print quality results. The printer has automatic procedures to hide many nozzle defects.

1. Recover the Printheads using the option through the Front Panel (Main menu/Image quality maintenance/clean Printheads).
2. Reprint the Nozzle Print test to check that the defective nozzles have been corrected.
3. If the problem continues, replace the faulty Printhead.

## Force Drop Detection

If Nozzle Print Test plot has persistent white point banding in only one color that cannot be fixed with a recovery you can use this option to resolve the problem by resetting the nozzle health data base so that all nozzles are assumed to be correct. After the nozzle health data base has been reset the drop detection procedure is started.

The normal cause of this white point banding in a single color is the incorrect detection of failed nozzles by the drop detector.

This tool is also helpful to diagnose a potential failure of the drop detector. From firmware 6.0.0.9 and onwards, the 'force drop detector tool' displays the number of nozzles out per printhead. If you print the diagnostic plot image, afterwards you will be able to compare this number detected by the drop detector with the real number of nozzles out that you see on the printout.

If there is a mismatch on all the colors, there is a probability that the drop detector is not working well or it is not positioned correctly. Before replacing the drop detection, perform a 'drop detector calibration' to correctly position it. If the failure (miss-match) is still there after the calibration, replace the drop detector.

## Disable Paper Advance Sensor

This option allows the disabling of the Paper Advance Sensor and forces the advance control to use the analog encoder system. The Paper Advance sensor will return to the default status after the unit is rebooted. The Paper Advance Sensor is also known as the Optimal Media Advance Sensor or OMAS.

## Fix paper advance issues

Z6100 printers have a Paper Advance Sensor system that corrects the advance error automatically. This system avoids the use of the traditional advance calibration system.

However, there are some types of paper where this system cannot operate correctly because the type of material used for the paper. To work with these types of paper the traditional advance system based on an Analog Encoder Sensor is provided in the printer. This analog encoder calibration requires the Advance Calibration (carried out at the factory or in service through the service menu) to work properly.

Some of the papers type that will not work with the new Paper Advance Sensor are: Clear Film, Backlit, Some types of Matte film, Some types of Polypropylene

To check if your paper can use the Paper Advance Sensor go to the *Service Menu> Diagnostic print> Others > Visual Paper Advance Diagnostic*. The test will allow you to check if advance control is used. The reference paper to use for the Paper Advance Calibration is HP Universal Photo Gloss. If the customer does not have this media, order support part: Q1272-60296 (Inst. dry photo glossy Calibration Sheets). The flow to fix and advance issues is as follows:

[a] List of types of media which are NOT used (non navigable) by the OMAS media sensor:

HP or HP Approved Clear Film

HP or HP Approved Backlit

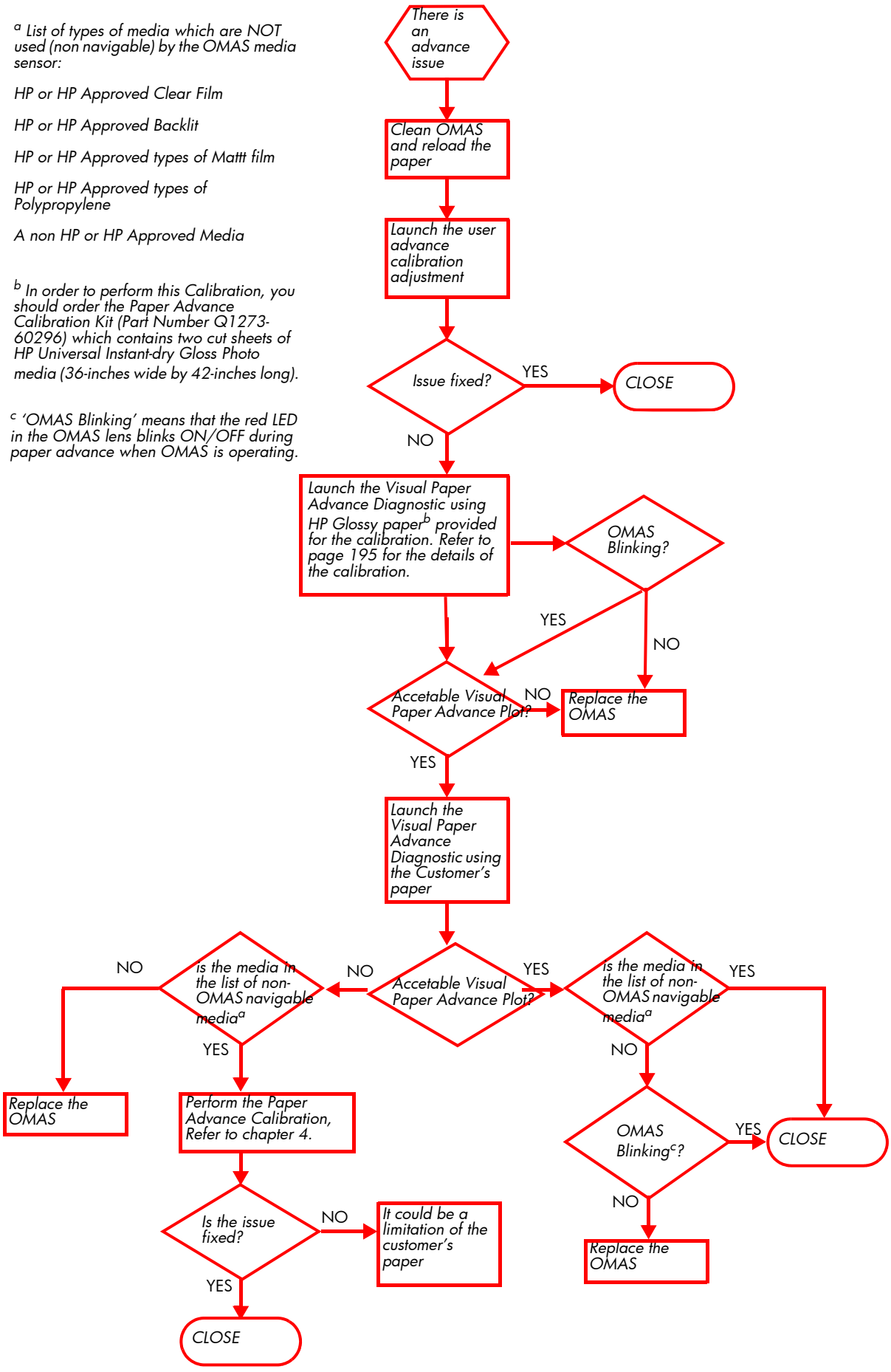
HP or HP Approved types of Mattt film

HP or HP Approved types of Polypropylene

A non HP or HP Approved Media

[b] In order to perform this Calibration, you should order the Paper Advance Calibration Kit (Part Number Q1273-60296) which contains two cut sheets of HP Universal Instant-dry Gloss Photo media (36-inches wide by 42-inches long).

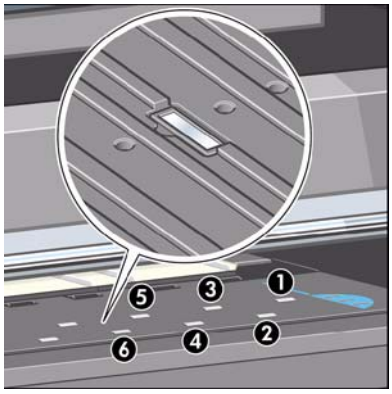
[c] 'OMAS Blinking' means that the red LED in the OMAS lens blinks ON/OFF during paper advance when OMAS is operating.



## Clean the paper advance sensor window

The paper advance sensor is the very small rectangular window (less than 1 square centimeter in size and shown in the graphic below) found near the sixth platen roller from the right.

Very gently wipe off any dust and loosened ink deposits from the sensor window, using a clean, absorbent, lint-free cloth, slightly dampened with isopropyl alcohol.




## The User Advance Calibration.

If the paper does not advanced the correct distance between passes of the printheads in the Carriage Assembly, light and dark bands appear in the print job and the image may look grainy.

The printer is calibrated to advance correctly with all the papers in the front panel. When you select the type of loaded paper, the printer adjusts the rate at which to advance the paper while printing. However, if you are using custom paper or are not satisfied with the default calibration of your paper, you may need to calibrate the rate at which the paper advances.

You can check the paper advance calibration status of the currently loaded paper at any time. Select the Paper icon>View loaded paper > View paper details. There are three types of status:

- **DEFAULT:** This status is displayed when loading an HP paper. HP papers in the front panel have been optimized by default and unless you experience image quality problems in your printed image such as banding or graininess it is not recommended to calibrate the paper advance.
- **RECOMMENDED:** This status appears when a new paper is created. The paper advance values for this paper are inherited from the family type. In cases such as these it is recommended that you perform a paper advance calibration to optimize the values.
- **OK:** This status indicates that the loaded paper has been calibrated before. However you may need to repeat the calibration if you experience image quality problems such as banding or graininess in your printed image.

**NOTE:** Whenever you update the printer's firmware, the paper advance calibration values will be reset to factory default.

**NOTE:** Colored papers and transparent materials such as translucent bond, clear film, matte film, tracing paper, and vellum are not suitable for paper advance calibration.

**NOTE:** User advance calibration works in both advance control systems: paper advance sensor and analog encoder system.

### The Paper Advance Calibration procedure

If your paper is not suitable for the paper advance calibration, override steps 1 and 2 (Calibrate Paper Advance) and go directly to step 3 (Adjust Paper Advance)

1. At the front panel, select the icon, then Image quality maintenance > Paper advance calibration > Calibrate paper advance. The printer automatically calibrates the paper advance and prints a paper advance calibration image.
2. Wait until the front panel displays the status screen and re-print your print.

**NOTE:** The calibration procedure takes approximately three minutes. Do not worry about the paper advance calibration image. The front-panel display shows any errors in the process.

- If you are satisfied with the image quality of the print afer performing the calibration you can stop here.
- If you can detect an improvment in the image quality of the print but want to fine tune the settings further, continue to step 3.
- If you are dissatisfied with the calibration, you can return to the default calibration, refer to the next procedure 'Return to default calibration' seen below.

3. If you would like to fine-tune the calibration, select the icon, then Image quality maintenance > Paper advance calibration > Adjust paper advance.
4. Select the percentage of change from -100% to 100%. To correct light banding, decrease the percentage. To correct dark banding, increase the percentage.
5. Press the OK key on the front panel, to save the value.
6. Wait until the front panel displays the status screen and re-print your print.

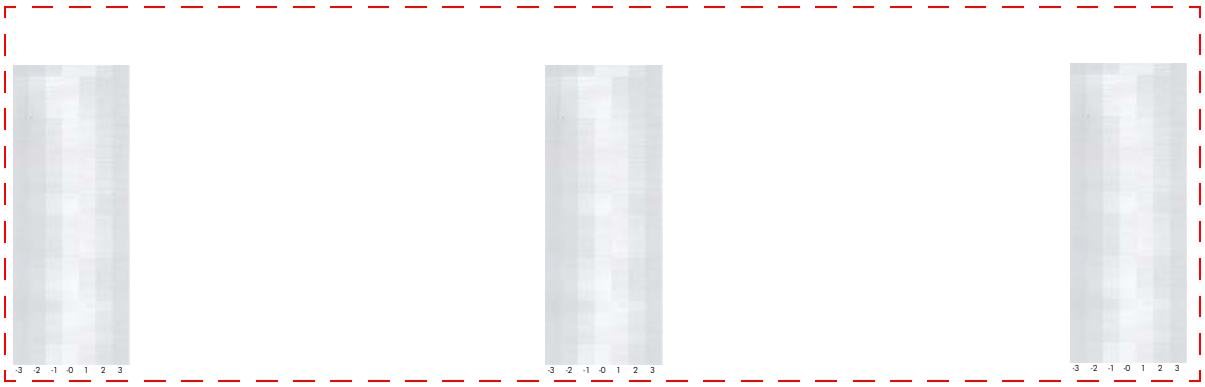
### Return to default calibration

Returning to the default calibration sets all the corrections made by the paper advance calibration to zero. To return to the default paper advance calibration value, you must reset the calibration.

1. At the front panel, select the icon, then Image quality maintenance > Paper advance calibration > Reset paper advance.
2. Wait until the front panel displays the operation has completed successfully before pressing the Back key to return to the main menu.

## Visual Paper Advance Plot

The Visual Paper Advance Diagnostic prints a test plot to verify that the paper advance is operating correctly. The plot is accessible from Service Utilities submenu> Diagnostic Print> Others> Visual Paper Advance Diagnostic menu option. It consists of three plots printed at the left, center, and right of the paper. These three plots are the same and contain seven numbered columns. The following illustrations shows an example of the Visual Paper Advance Diagnostic plot.

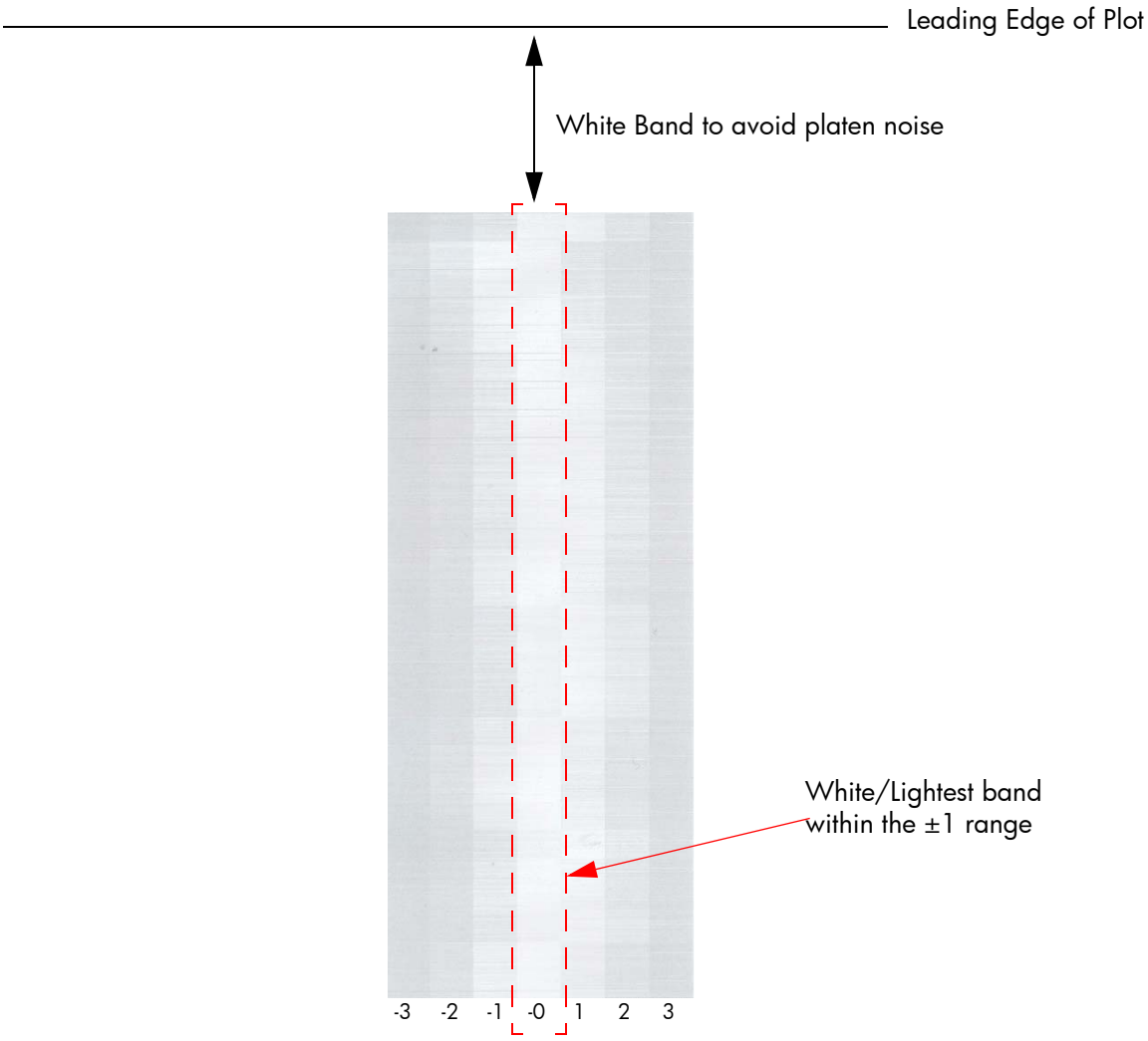


## Interpreting plot results

The three plots are all printed using Photo Black ink in 6-pass print mode (even on Gloss paper) and should should each be similar. The white/lightest band of must be within the center ±1 area for a PASS result. This should be true for all three plots or the printer will have differential banding (a difference of advance between the left and right). There is a 3-inch white band before the plots to ensure there is no platen noise causing advance errors while the media is covering the platen.

### Example acceptable plot

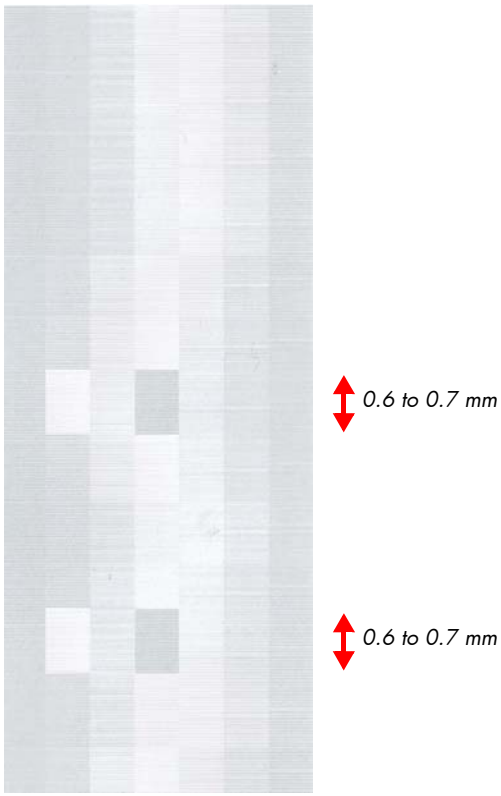
The following illustration shows an example of a PASS plot.



## Example defective advance plot

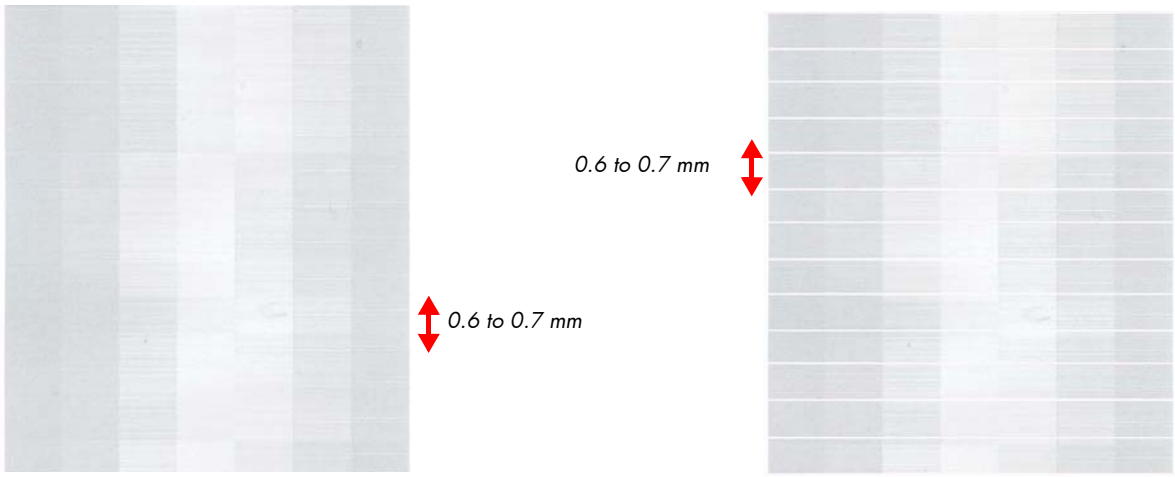
This defect has the follow possible causes:

- OMAS is not clean or is defective so you should repeat the plot with OMAS disabled. This will allow you to establish if this is an OMAS related fault. If the same fault is detected the problem cannot be attributed to OMAS.
- The Drive roller is not clean so it slips against the media.
- Any other component affecting the media advance:
  - Spindle/Back Tension
  - Input roller
  - Pinchwheels



## Example defective nozzle plot

This example is caused by a defective nozzle so there is no issue with the paper advance.



# Image quality issues by symptom

This section describes the common symptoms seen, and how to solve the issues.

## There is banding in the image

If banding **does not** occur in ALL the colors, then it is more than likely a Printhead problem. In this case, try the following:

1. Check that the appropriate print quality settings are being used.
2. Recover the printheads using the option through the Front Panel (**Image quality maintenance** > **Clean printheads**). Reprint the Diagnostic Print or the print file and if the problem persists, replace the faulty Printhead.

If banding **does** occur in ALL the colors, then it is more than likely a Paper Advance problem:

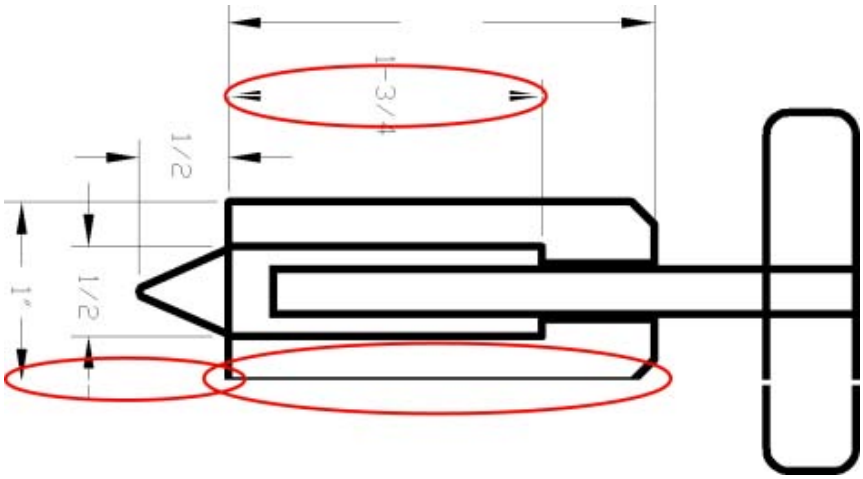
- If the bands are light, it means that the paper has advanced too much.
- If the bands are dark, it means that the paper hasn't advanced enough.
- In high quality modes, graininess in ALL colors can indicate problems either with alignment or Paper Advance.

In order to solve any of these problems, try the following:

1. Check that the appropriate print quality settings are being used.
2. Check that the loaded paper is the same type as selected in the printer. Verify this through Front Panel the option (On the Front Panel, select the icon, then **View loaded paper** > **View paper details**).
3. If the customer is using low quality paper, try recommending better quality paper (preferable HP paper). Printer performance can only be guaranteed by using recommended papers.
4. Check the advance with the help of the Visual Paper Advanced Diagnostic, refer to page 195.

**NOTE:** If there is white point banding in only one color band and the problem cannot be fixed using the Printhead recoveries, in some cases using the force a drop detection option can fix this issue (see Others Diagnostics: Force Drop Detection).

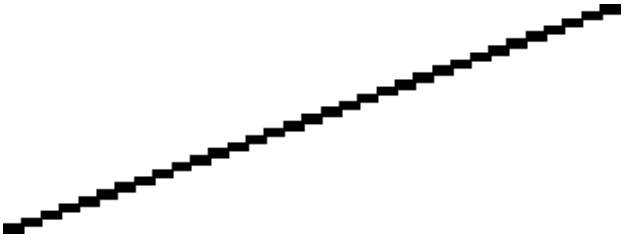
## Lines are too thick, too thin, or missing




1. Check that the paper type you have loaded corresponds to the paper type selected in the front panel and in your software. To check on the front panel, use the View loaded paper key.
2. Check that you are using appropriate print-quality settings for your purposes. See Select print quality on User Guide.
3. If the resolution of your image is greater than the printing resolution, you may notice a loss of line quality. You can find the Max. Application Resolution option in the Windows driver dialog's Advanced tab, under Document Options > Printer Features. If you change this option, you may wish to reprint your job at this point in case the problem has been solved.
4. If lines are too thin or missing, print the Image Diagnostics Print.
5. Try aligning the printheads. After alignment, you may wish to reprint your job in case the problem has been solved.
6. Select the icon from the printer's front panel, then View loaded paper to see the paper advance calibration status. If the status is PENDING, you should perform paper advance calibration if the paper does not use OMAS advance control.

## Lines appear stepped or jagged

If lines in your image appear stepped or jagged when printed:



1. The problem may be inherent in the image. Try to improve the image with the application you are using to edit it.
2. 2.Check that you are using appropriate print-quality settings. See Select print quality on User Guide
3. Change your image rendering resolution to 300 dpi or 600 dpi depending on your printing needs. You can find the Max. Application Resolution option in the Windows driver dialog's Advanced tab, under Document Options > Printer Features.

## Parts of lines or text are missing

Large quantities of data may be necessary to print a high-quality large format print job, and in some specific workflow there may be issues that can lead to some objects missing from the output. Here are some suggestions to help you to avoid this problem.

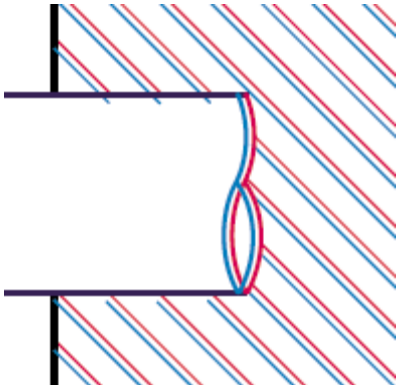
- Select a smaller page size and scale to the desired final page size in the driver or in the front panel.
- Save the file in another format, such as TIFF or EPS, and open it with another application.
- Use a RIP to print the file.
- Reduce the resolution of bitmap images in your application software.
- Select a lower print quality in order to reduce the resolution of the printed image.
- In the Advanced tab of the Windows driver dialog, select Document options, Printer features, then:
  - Set Send job as bitmap to Enabled (HP-GL/2 driver only).
  - Set 16-bit App. Compatibility to Enabled.
  - Set Max. Application resolution to 300.

**NOTE:** The above settings are mentioned for troubleshooting purposes and may adversely affect the final output quality or the time necessary to generate the print job. Therefore, they should be restored to their default values if they do not help to solve the problem.

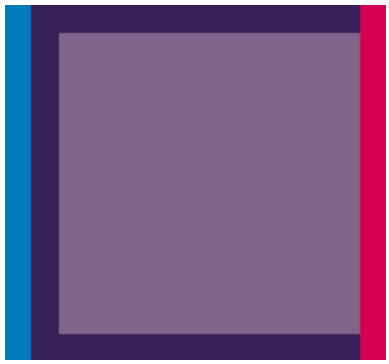
## Lines are printed double or in wrong colors

This problem can have various visible symptoms:

- Colored lines are printed double, in different colors.



- The borders of colored blocks are wrongly colored.



To correct this kind of problem:

1. Align the printheads.
2. Check that you are using appropriate print-quality settings.

## Lines are blurred (ink bleeds from lines)

Humidity can cause ink to soak into the paper, making the lines blurred and fuzzy. Try the following:

1. Check that your environmental conditions (temperature, humidity) are suitable for high-quality printing.
2. Check that the paper type selected in the front panel is the same as the paper type you are using. To check, select the icon from the printer's front panel, then View loaded paper.
3. Try changing to a heavier paper type, such as HP Heavyweight Coated Paper, HP Super Heavyweight Coated Paper, or Digital Fine Art paper.
4. If you are using glossy paper, try changing to a different type of glossy paper.
5. Align the printheads.

## Lines are slightly warped

The paper itself may be warped. This can happen if it has been used or stored in an extreme environment.

## Dark or light horizontal lines across the image (banding)

If your printed image suffers from added horizontal lines as shown (the color may vary):

1. Check that the paper type you have loaded corresponds to the paper type selected in the front panel and in your software. To check on the front panel, use the View loaded paper key.
2. Check that you are using appropriate print-quality settings for your purposes. See Select print quality on User Guide. In some cases, you can overcome a print-quality problem merely by selecting a higher print quality level. For instance, if you have set the print-quality slider to Fast, try setting it to Best. If you change the print-quality settings, you may wish to reprint your job at this point in case the problem has been solved.
3. Print the Image Diagnostics Print. See Use the Image Diagnostics Print.
4. If the printheads are working correctly, go to the front panel and press the View loaded paper key to see the paper advance calibration status. If the status is PENDING, you should perform paper advance calibration if the paper does not use OMAS advance control.

## The image is grainy.

1. Check that the paper type you have loaded corresponds to the paper type selected in the front panel and in your software. To check on the front panel, use the View loaded paper key.
2. Check that you are printing on the correct side of the paper.

3. Check that you are using appropriate print-quality settings. See Select print quality on User Guide. In some cases, you can overcome a print quality problem merely by selecting a higher print-quality level. For instance, if you have set the print-quality slider to Fast, try setting it to Best. If you change the print-quality settings, you may wish to reprint your job at this point in case the problem has been solved.
4. Try aligning the printheads. After alignment, you may wish to reprint your job in case the problem has been solved.
5. Go to the front panel and press the View loaded paper key to see the paper advance calibration status. If the status is PENDING, you should perform paper advance calibration if the paper does not use OMAS advance control.

## The image has a metallic hue (bronzing)

Bronzing is a term used to describe an image that has a metallic hue when viewing it from specific angles, as if the print were made of bronze. Bronzing occurs most commonly when printing pigmented inks on non-matte paper such as photo paper. If your image is bronzing, and you are using standard print-quality options, ensure that the slider is set to Quality. See Select print quality on User Guide.

If you are experiencing bronzing when printing grayscale images on glossy paper, try using the Full Set of Inks printing option. To do so from the Windows driver, select the Color tab and select Print In Grayscale, then select the Full Set of Inks option from the drop-down menu.

## The printed output is not flat

If the paper does not lie flat when it comes out of the printer, but has shallow waves in it, you are likely to see defects in the printed image, such as vertical stripes. This can happen when you use thin paper that becomes saturated with ink

1. Check that the paper type you have loaded corresponds to the paper type selected in the front panel and in your software. To check on the front panel, use the View loaded paper key.
2. Try changing to a thicker paper type, such as HP Heavyweight Coated paper, HP Super Heavyweight Coated Paper, or thicker Digital Fine Art papers.

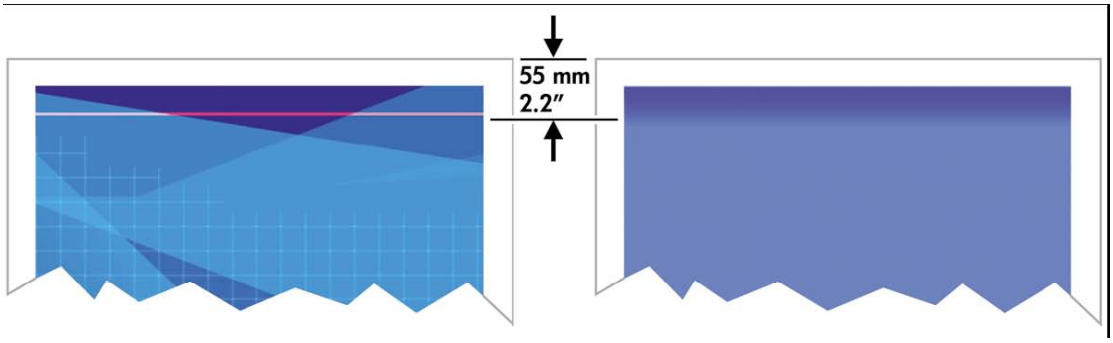
## The print smudges when touched

The black ink pigment can smudge when touched by a finger or pen. This is particularly noticeable on the following materials: vellum, translucent bond, films, productivity photo paper, and natural tracing paper. To reduce the smudging:

- Try to print in an environment which is not too humid for the printer
- Change pure black objects in your image to a dark color, such as dark brown, so that they will be printed with colored inks instead of black ink
- Use HP Heavyweight Coated
- Increase the drying time

## Defects near the top of a print

There is a type of defect that affects only the start of a print, within 5.5 cm of the leading edge of the paper. You may see a thin or thick band of inconsistent color




To avoid this problem:

1. The easiest solution may be to select the Extended Margins option in the driver, the Embedded Web Server, or the front panel. This means that the area of the paper affected by the problem (at the start of the page) may no longer be printed on. See Adjust margins and layout options on User Guide.
2. Align the printheads.
3. Check that you are using appropriate print-quality settings.

## There are ink marks on the paper

This problem may occur for several different reasons.

### Smears on the front of coated paper

If a lot of ink is used on coated paper, the paper absorbs the ink quickly and expands. As the printheads move over the paper, the printheads come into contact with the paper and the printed image is smeared.

Whenever you notice this problem, you should cancel the printing job. Press the Cancel key on the front panel and also cancel the job from your computer application. Otherwise the soaked paper may damage the printheads.

Try the following suggestions to avoid this problem:

- Use a recommended paper type
- If the image you are printing contains intense color, try using HP Heavyweight Coated Paper
- Use extended margins (see Adjust margins and layout options on User Guide), or try to increase the margins by relocating the image within the page using your software application

- If necessary, try changing to a non-paper-based material such as transparent film

### Smears or scratches on the front of glossy paper

Glossy paper may be extremely sensitive to the bin or to anything else that it contacts soon after printing. This will depend on the amount of ink printed and the environmental conditions at the time of printing. Avoid any contact with the paper surface and handle the print with care.

### Ink marks on the back of the paper

Ink residues on the platen or on the input rollers are likely to mark the back of the paper.

## Colors are inaccurate

Refer to this section if the customer complains of inaccurate colors which do not match their expectations.

### Upgrade the Firmware

To ensure that the image quality and color troubleshooting tools that are available in the printer are the most up to date, check that the firmware is the latest available.

### Basic image quality troubleshooting

As a first step to improving the accuracy of the color ensure that the basic image quality of the printer is good. Good all round image quality is a pre-requisite to acheiving color accuracy and color consistency.

1. Refer to the steps in "Initial Print Quality Troubleshooting Actions" on page 180.
2. Perform the Color Calibration Procedure via the Front Panel: **Image Quality Maintenance> Calibrate Color**.
3. Ensure the media being used has an ICC color profile created. This can be done by using the HP Color Center to select Create and Install an ICC Profile.
4. Perform the Image Quality diagnostic procedures, refer to page 181.

### Checking the Spectrophotometer

If none of the above solutions fix the problem and the customer notices a slight degradation of color over time perform the following steps:

1. Perform the
   - Spectrophotometer Test, refer to page 148 for details (firmware 6.0.0.9 or greater). This tests the Spectrophotometer's ability to function within predefined color specifications.

- The Color Sensor Test, refer to page 119 for details. This tests the covers that open and close on the Spectrophotometer.

2. Turn on the error log and check to see if there is an warning error 94:08. This would indicate that the measured values displayed when performing the color calibration were out of specification.
3. If the Spectrophotometer fails the test replace the Spectrophotometer (service part Q6651-60039).
4. If the Spectrophotometer passes the test succesfully and the customer continues to complain about the color:
   - If the customer is not using an external Spectrophotometer, the problem should not come from the Spectrophotometer, as the error will be less than 4deltaE2000 and almost invisible to the human eye.
   - If the customer is using an external Spectrophotometer
     - There are scenarios where two different Spectrophotometers (internal & external) can display different values.
     - The case should be escalated to an expert in color.
5. Finally as a workaround we can suggest to the customer that they use an external Spectrophotometer as in previous HP Designjets

## Colors between different HP Designjets do not match

If you print an image on two different printer models (for instance, on an HP Designjet Z6100 Photo printer series and an HP Designjet 4000 printer series), you may find that the colors of the two prints do not match well.

Matching two printing devices that use different ink chemistry, paper chemistry, and printheads is unlikely to be completely successful. The information provided here is the best way to emulate one printer with another. Even so, the end result may not be a perfect match.

### Print via separate PostScript drivers

The situation is that you are printing on each printer using the PostScript driver installed for that printer. In this example, we are using an HP Designjet Z6100 Photo printer series and an HP Designjet 4000 printer series.

1. Ensure that both printers have been updated to the latest firmware version.
2. Ensure that you have the latest printer driver for both printers. You can download the latest versions for any HP printer from www.hp.com/go/designjet.
3. Ensure that Color Calibration is turned on. At the front panel of the HP Designjet Z6100, select the icon, then **Printer configuration** > **Color calibration** > **On**.
4. Load the printers with similar paper types.
5. Ensure that the Paper Type setting on the front panel corresponds to the paper you have loaded.
6. Print your image on the HP Designjet 4000 using your normal settings.
7. Now prepare to print the same image on the HP Designjet Z6100.
8. In your application, set the color space of the image to emulate the HP Designjet 4000 and the specific paper type that you used in that printer. The data sent to the driver must be already converted to this emulation color space, which is a CMYK color space. See your application's online help for information on how to do this. In this way, the Z6100 will emulate the colors that the 4000 can produce when printing on that paper type.

9. In the PostScript driver for the HP Designjet Z6100, go to the Color Management section and set the CMYK input profile to the same HP Designjet 4000 color space that you selected in the application (the emulation color space).

**NOTE:** When trying to emulate another printer you should always use CMYK colors, not RGB.

10. Set the rendering intent to Relative Colorimetric, or to Absolute Colorimetric if you want to emulate the whiteness of the paper.
11. Print the image on the HP Designjet Z6100.

## Print via separate HP-GL/2 drivers

The situation is that you are printing on each printer using the HP-GL/2 driver installed for that printer.

1. Ensure that both printers have been updated to the latest firmware version.
2. Ensure that you have the latest printer driver for both printers. You can download the latest versions for any HP printer from www.hp.com/go/designjet.
3. Ensure that Color Calibration is turned on. At the front panel of the HP Designjet Z6100, select the icon, then Printer configuration > Color calibration > On.
4. Load the printers with similar paper types.
5. Ensure that the Paper Type setting on the front panel corresponds to the paper you have loaded.
6. With the HP-GL/2 driver for the HP Designjet Z6100, select the Color tab, and select Printer Emulation from the list of color management options. Then choose the HP Designjet 4000 from the list of emulated printers.
7. With the HP-GL/2 driver for the HP Designjet 4000, select the Options tab, then Manual Color > Color Control > Match Screen. You should also select the Paper Size tab, then Paper Type.

## Print the same HP-GL/2 file

The situation is that you have produced an HP-GL/2 file (also known as a PLT file) using the HP-GL/2 driver installed for one printer, and you intend to send the same file to both printers.

1. Ensure that both printers have been updated to the latest firmware version.
2. Ensure that Color Calibration is turned on. At the front panel of the HP Designjet Z6100, select the icon, then Printer configuration > Color calibration > On.
3. Load the printers with similar paper types.
4. Ensure that the Paper Type setting on the front panel corresponds to the paper you have loaded.
5. If you have an HP-GL/2 file produced for an HP Designjet 4000 and you want to print it on an HP Designjet Z6100, proceed as follows using the Embedded Web Server or the front panel.

- Using the Embedded Web Server: leave the color options set to Default.

Using the front panel: select the icon, then Default printing options > Color options > Select RGB input profile > HP Designjet 4000 Series.

For other HP Designjet printers, set both printers to match the screen colors (sRGB if selectable), as when printing with separate HP-GL/2 drivers.

## The output is completely blank

If the front-panel graphic language setting is Automatic (the default), try the other settings: PostScript for a PostScript file, HP-GL/2 for an HP-GL/2 file, etc. Then send the file again.

When you have finished this particular print, remember to reset the graphic language to Automatic.

## The output contains only a partial print

- If you pressed Cancel before all the data were received by the printer, you ended the data transmission and will have to print the page again.
- The I/O time-out setting may be too short. This setting determines how long the printer waits for the computer to send more data, before deciding that the job is finished. From the front panel, increase the I/O time-out setting to a longer period and then send the print again. From the front panel, select the icon, Connectivity menu > Advanced > Select I/O time-out.
- There may be a communications problem between your computer and the printer. Check your USB or network cable.
- Check to make sure that your software settings are correct for your current page size (for example, long-axis prints).
- If you are using network software, make sure it has not timed out.

## The image is clipped

Clipping normally indicates a discrepancy between the actual printable area on the loaded paper and the printable area as understood by your software. You can often identify this kind of problem before printing by previewing your print.

- Check the actual printable area for the paper size you have loaded. printable area = paper size - margins
- Check what your software understands to be the printable area (which it may call “printing area” or “imageable area”). For example, some software applications assume standard printable areas that are larger than those used in this printer.
- If you have defined a custom page size with very narrow margins, the printer may impose its own minimal margins, clipping your image slightly. You may want to consider using a larger paper size.
- If your image contains its own margins, you may be able to print it successfully by using the Clip Contents by margins option.
- If you are trying to print a very long image on a roll, check that your software is capable of printing an image of that size.
- You may have asked to rotate the page from portrait to landscape on a paper size that is not wide enough.
- If necessary, reduce the size of the image or document in your software application, so it fits between the margins.

There is another possible explanation for a clipped image. Some applications, such as Adobe Photoshop, Adobe Illustrator, and CorelDRAW, use an internal 16-bit coordinate system which means that they cannot handle an image of more than 32,768 pixels. If you try to print an image larger than this from these applications, the bottom of the image will be clipped. To print the whole image, try these suggestions:

- Reduce the resolution so that the whole image requires fewer than 32,768 pixels. The Windows driver dialog includes an option called 16-bit App. Compatibility, which can be used to reduce the

resolution of such images automatically. You can find this option in he Advanced tab, under Document Options > Printer Features.

- Save the file in another format, such as TIFF or EPS, and open it with another application.
- Use a RIP to print the file.

## The image is in one portion of the printing area

- Have you selected too small a page size in your application?
- Does your application think that the image is in one portion of the page?

## The image is unexpectedly rotated

- At the front panel, select the icon, then Printing preferences > Paper > Rotate. Check that the setting is what you wanted.
- For non-PostScript files: if Nesting is On, pages may be automatically rotated to save paper.

## The print is a mirror image of the original

At the front panel, select the icon, then Printing preferences > Paper > Enable mirror. Check that the setting is what you wanted.

## The print is distorted or unintelligible

- The interface cable connecting your printer to your network (or to your computer) could be faulty. Try another cable.
- If the front-panel graphic language setting is Automatic (the default), try the other settings: PostScript for a PostScript file, HP-GL/2 for an HP-GL/2 file etc. Then send the file again.
- Depending on the software, drivers, and RIPs you are using with your printer, there will be different ways of solving this problem. Refer to the vendor's user documentation for details.

## One image overlays another on the same print

The I/O time-out setting may be too long. From the front panel, decrease the setting and print again. Select the icon, Connectivity menu > Advanced > Select I/O time-out.

## Pen settings seem to have no effect

Here are some possible explanations:

- You have changed the settings in the front panel by selecting the icon followed by Printing preferences > HP-GL/2 > Define palette, but you have forgotten to select that palette in Printing preferences > HP-GL/2 > Select palette.
- If you want the software-driven pen settings, you must remember to go to the front panel and select the icon followed by Printing preferences > HP-GL/2 > Select palette > Software.

## The image has a wood-grain appearance (aeroworms)

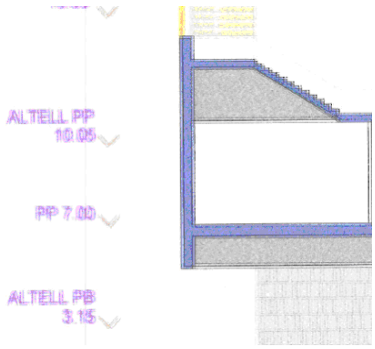
Aeroworms are wavy, horizontal bands produced by air-induced dot placement error (DPE). In extreme cases aeroworms give the image a wood-grain appearance. The problem occurs most commonly on print

jobs set for low-quality and high-speed. It will not occur when the custom print quality setting is set to "best."

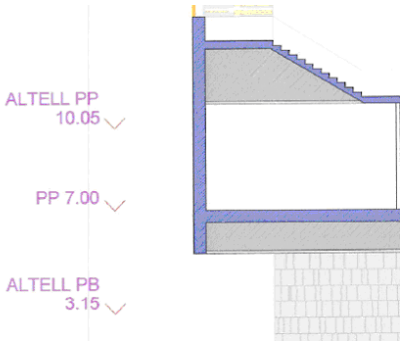
- To eliminate aeroworms, select a higher IQ print setting. See Selecting Print Quality in the User's Guide.

## CAD Lines look misaligned, images are blurred

This issue can be seen even after the customer has performed the Printhead Alignment procedure. The misalignment is most highlighted in CAD drawings, there are double-lines and images are 'ghosted'. See the two examples below.




Here the CAD drawing has the issue, the CAD lines are misaligned and the image looks blurred/grainy




Here the CAD drawing does not have the issue and the drawing looks ok.

This issue can be solved by upgrading the firmware to the latest version.

## Some media might deform when printing high area fill

This issue is known as PEPA: Paper Expansion Paper Advance. The quality of some images might be reduced if you use a paper type that is unsuitable for your image. This is especially important to consider when printing on fiber-based papers such as HP Universal Coated Paper, HP Coated Paper, HP Heavyweight Coated Paper and HP Universal Heavyweight Coated Paper. Printing images that contain high-saturation area fills on fiber-based papers can create unwanted wavy patterns as a result of paper expansion. This can ultimately contribute to more severe problems. Consider using Super Heavyweight Coated Paper and other cockle-free papers when printing high-saturation area fills

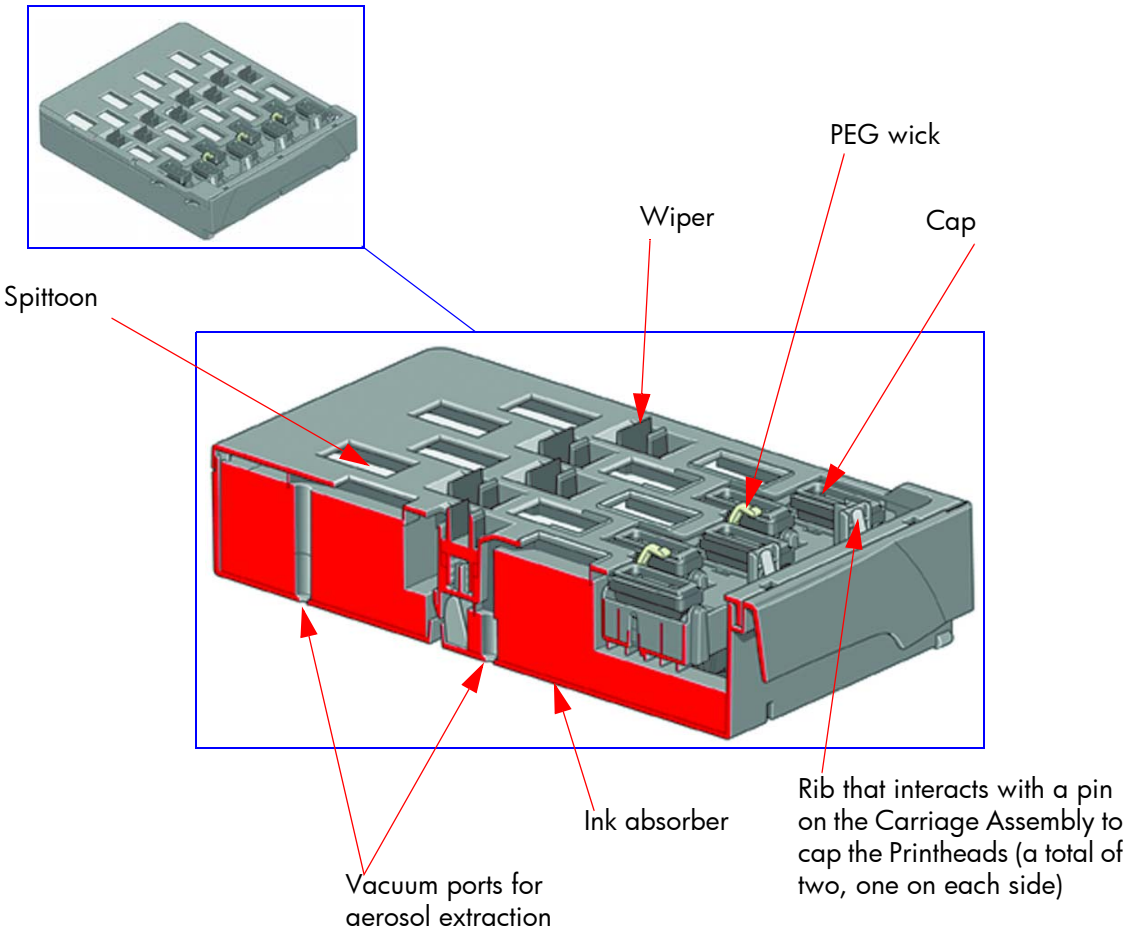
Finally, as this paper expansion is increasing when a high quantity of ink is placed at once, the HP Designjet Z6100 might exhibit this paper expansion more than when compared to the DJ5x00 or DJ10x0 series.

## Printheads fail repeatedly

If you encounter intermittent quality issues that are not solved after replacing Printheads or repeated replacement of the same Printheads there might be a capping problem. This could be caused damage to the Maintenance Cartridge or even the actual Carriage Assembly which is preventing the Printheads from being correctly capped.

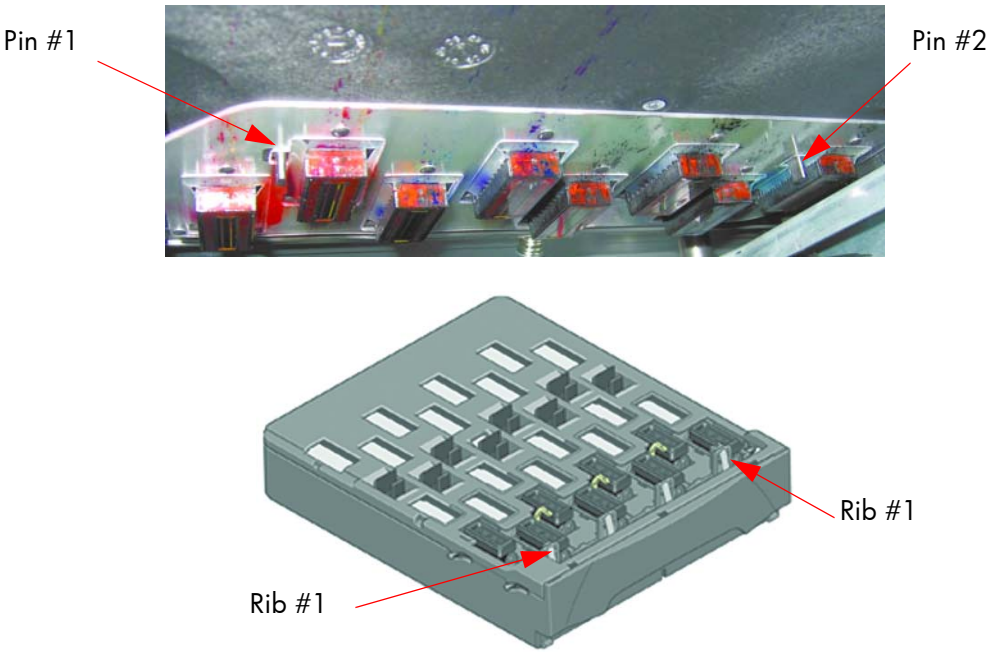
The Maintenance Cartridge provides the capping for all eight Printheads and contains integrated Printhead caps, wipers, cleaners, and waste ink disposal.

The following illustration shows a the components that make up the Maintenance Cartridge.


PEG wick
Wiper
Cap
Spittoon
Ink absorber
Rib that interacts with a pin on the Carriage Assembly to cap the Printheads (a total of two, one on each side)
Vacuum ports for aerosol extraction

To cap the Printheads:

- The Carriage Assembly is first positioned over the Service Station.
- The Maintenance Cartridge moves towards the back of the printer which allows Pin #1 and Pin #2 on the Carriage Assembly to push against Rib #1 and Rib #2 to lift the caps into contact with the Printheads.



Improper capping of printheads will occur when any of the following elements break:

- Rib #1 or Rib #2 of the Maintenance Cartridge,
- Pin #1 or Pin #2 of the Carriage Assembly

You should also check all the other elements of the Maintenance Cartridge (plastic of each cap etc.) and make sure the vacuum ports are clear. If they are blocked, you can clear them with a T-8 Torx bit but you should also check to make sure the Aerosol Fan is operating correctly.

# Working with other commercially available media

This section provides a quick reference guide to selecting the correct settings in the printer so that the printer acheives the best possible image quality when using a type of media which does not come from HP.

Table 1 shows the recommended media settings for some of the most commonly available media in the market. If a particular media is not shown in table 1, refer to the information in tables 2,3and 4 in order to choose the correct category for the media available from sources other than hp.

Table 2 defines the print characteristics used in Table 3 and 4.

For optimum results, first load the media with the recommended settings, then calibrate and profile the media. For creating the ICC profile, there are two different options:

- Profile the paper using the HP Color Center
- Use an alternative profile (often available from the paper's manufacturer).

**Table 1: Other commercially available paper and recommended media settings**

| Paper Manufacturer | Paper name | Front Panel Selection |
|---|---|---|
| Hahnemühle | Hahnemühle Photo Rag < 250 gsm | Fine Art Material > Fine Art Paper |
| Ilford | Instant Dry Glossy Photo RC Paper 270gsm – IPNQ3GP11 | Photo Paper > HP Premium ID Photo Gloss |
| Pictorico | Pictorico Hi Gloss Photo Paper (HGP¬24100/2) | Photo Paper > HP Premium ID Photo Gloss |
| Kodak | Kodak Premium Rapid Dry Photo Luster | Photo Paper > Photo Gloss (less ink) |
| | 260gr Kodak professional photo paper 255gr Luster | Photo Paper > Photo Gloss Paper |
| Fuji | Fujifilm Paper Satin 270 gr | Photo Paper > HP Premium ID Satin |
| | Fujifilm Photo Paper Glossy 240 gr | Photo Paper > HP Premium ID Gloss |
| | Fuji Inkjet Paper Proofing Glossy 200 | Proofing Paper > HP HG Contract Proofing |
| Canson | Arches Soft Natural Smooth 240gr | Fine Art Material > Fine Art Paper |
| Somerset | Somerset Velvet Enhanced 255gr | Fine Art Material > Fine Art Paper |

| | | |
|---|---|---|
| Intelicoat | Universal PDQ Gloss Photobase 10Mil (DMPDQ2-G) | Photo Paper > HP Premium ID Gloss |
| | Mat and Gloss canvas Torino17M Matte, Poly/Cotton 17 Mil/Artist Stretch Canvas | Fine Art material > Canvas |
| | DMBP5 Backprint Film 5Mil/125 Microns | Photo Paper > Photo Gloss Paper |
| | Mural Pro Digital Wallcovering Paper 228 gsm | Fine Art Material > Fine Art Paper |
| | Universal PDQ Gloss Photobase 10Mil (DMPDQ2-L) | Photo Paper > HP Premium ID Gloss |
| Ketmere Photographic | K. Opaljet 300 Pop-Up Display Film | Banner & Sign Adhesive > Indoor Banner |
| Technova | Novajet PhotoMatte PET Film 175 | Fine Art Material > HP Artist Matte Canvas |
| Sihl Digital Imaging | IJ Maranello Photo Paper PE 195 glossy | Photo Paper > HP Premium ID Gloss |
| | Universal Artist Canvas 340 matt | Fine Art material > Canvas |
| Boni | Waterproof PP Matt | Bond and Coated Paper > Heavyweight Coated Paper |
| | Waterproof PVC Vinyl with low tack (Adhesive) | Self-Adhesive material > Adhesive Vinyl |
| Phil-Jet | Inkjet paper for plotter (Adhesive) | Self-Adhesive material > Adhesive Vinyl |
| Seyoungcnc | Matt Photopaper with clear backing (Adhesive) | Self-Adhesive material > Adhesive Vinyl |
| | Canvas | Fine Art material > Canvas |
| Chang Hyun Deco | Inkjet paper (Adhesive) | Self-Adhesive material > Adhesive Vinyl |
| Nansi Digital | White Canvas 160g | Bond and Coated Paper > Heavyweight Coated Paper |
| Sentinel Imaging | Graphix Universal Water-Resistant Pigment Canvas | Fine Art material > Canvas |
| Xerox | Backlit Film - Front Print 140 mic | Backlit material > Backlit |

## Selecting the correct Paper Pre sets

If a particular paper does not appear in Table 1, see the information below in Tables 2, 3 and 4 to choose the correct category for that paper. Table 2 defines the print characteristics used in Table 3: Other Commercially-available Paper Print Characteristics and Table 4: Original HP Printing Material Print Characteristics.

| Table 2: Difinition of Print Characteristics | |
|---|---|
| **Paper Type** | The name displayed in the driver and the front panel (the English version) |
| **Printing Black** | **Photo Black (P) / Matte Black (M) / Light Gray (lg)**: This setting indicates which inks are used when printing black:<br>• All black inks (All)<br>• P and lg only (P lg) |
| **Ink Limit** | Indicates the total amount of ink the paper can absorb to maximize gamut without causing image-quality problems. This setting is expressed in pico-liters (or nano-grams) per 1/600th x 1/600th inch paper area (divide by 4 for 1/1200th by 1/1200th inch area). In general we can say that the higher the ink limit, the higher the gamut. |

| | | |
|---|---|---|
| **Print Mode**<br>"Best Quality" or slider in the right position | Rendering Resolution (RR) | Resolution at which the image is rasterized/processed in the host (in pixels per printed inch, or pppi) |
| | Printing Resolution (PR) | Resolution at which the image is printed (in dots per inch, or dpi) |
| | # passes<br>Other info (OI)Bidirectional | Typically, the higher the number of passes, the better the image quality, but at a lower speeds. Also, papers such as glossy paper need a longer drying time that will generally require a higher number of passes. Whether printing when the carriage is traveling in a single direction only (Unidirectional) or in both directions (Bidirectional). Unidirectional modes typically provide better image quality – depending on the number of passes – but at lower speeds. |
| **Automatic Cutter** | Yes (Y) / No (N): Indicates whether cutting will be performed. Even if "Yes" is selected, cutting can be disabled later through the driver. However, if "No" is selected here, cutting cannot be re-enabled through the driver. | |

**NOTE:**

- Make sure the most similar paper is chosen to create your own media profiles, taking into account type and finishing (Matt or Gloss) but also weight and thickness.For example, use "HP Universal Instant-dry Gloss" (190 g/m², 7.4mil/188 microns) if you are loading a similar 190 g/m² gloss like paper. Good examples of these are "dtec Photobase Universal 190 gsm" or "Océ Smart Dry Photo Paper Gloss" (190 g/m², 188 microns). Do NOT use in this case the "HP Premium Instant-Dry Gloss", which is much heavier and thicker (260 g/m², 10.3mil/260 microns).
- Selecting the wrong basic medium to create a media profile can result in printing issues such as poor color performance or the paper not being advanced accurately.
- Do not use the cutter on canvas and Fine Arts papers.

For paper settings that can be downloaded from the HP Knowledge Center, refer to Downloading Paper Presets. After downloading and installing a paper preset, the new paper will display inside the 'Custom' category, both in the driver and in the front panel.

**Table 3: Commercially available media types**

| Media Type | | Printing Black | Ink Limiting | Print mode (Best) | | | Auto Cutter |
|---|---|---|---|---|---|---|---|
| | | | | RR | PR | OI | |
| Bond and Coated Paper | Super Heavyweight Coated | All | 48 | 600 | 1200x1200 | 10p bidi | Yes |
| | Heavyweight Coated Paper | All | 30 | | | 10p bidi | Yes |
| | Coated Paper | All | 24 | | | 8p bidi | Yes |
| | Coated Paper (CAD) | All | 24 | | | 6p Uni | Yes |
| | Plain Paper | All | 22 | | | 4p bidi | Yes |
| | Bright White Bond Paper | All | 22 | | | | Yes |
| Photo Paper | Photo Gloss Paper | Plg | 38 | 600 | 600x1200 | 16p bidi | Yes |
| | Photo Gloss Paper (Less ink) | Plg | 32 | | | 16p bidi | Yes |
| | Photo Semi-gloss/Satin paper | Plg | 38 | | | 16p bidi | Yes |
| Proofing Paper | Proofing Semi-gloss/Satin Paper | P lg | 38 | 600 | 600x1200 | 16p bidi | Yes |
| | Proofing Gloss Paper | P lg | 38 | | | | Yes |
| | Proofing Matte Paper | All | 30 | 600 | 1200x1200 | 10p bidi | Yes |
| Fine Art Paper | Canvas | All | 38 | 600 | 1200x1200 | 10p Uni | No |
| | Fine Art paper | All | 42 | | | | No |
| Film | Transparent film | All | 24 | 600 | 600x1200 | 16p Bidi | Yes |
| | Matte Film | All | 24 | | | | Yes |
| Technical Paper | Natural Tracing Paper | All | 22 | 600 | 1200x1200 | 4p bidi | Yes |
| | Translucent Bond | All | 22 | | | | Yes |
| | Vellum | All | 22 | | | | Yes |
| Back lit | Backlit Material | All | 72 | 600 | 1200x1200 | 12p Uni | Yes |
| Banner & Sign Material | Indoor Banner | All | 45 | 600 | 600x1200 | 16p bidi | Yes |
| | Scrim Banner | All | 54 | 600 | 1200x1200 | 10p bidi | Yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Self Adhesive | Adhesive polpropylene | All | 38 | 600 | 1200x1200 | 10p bidi | Yes |
| | Adhesive Vinyl | All | 32 | 600 | 1200x1200 | 10p bidi | Yes |

**Table 4: Original HP Types of Media**

| Media Type | | Printing Black | Ink Limiting | Print mode (Best) | | | Auto Cutter |
|---|---|---|---|---|---|---|---|
| | | | | RR | PR | OI | |
| Bond and Coated Paper | HP Coated Paper 95 g/m², 4.5mil/114 microns | All | 24 | 600 | 1200x1200 | 8p Bidi | Yes |
| | HP Coated Paper (CAD) 95 g/m², 4.5mil/114 microns | All | 24 | | | 6p Bidi | Yes |
| | HP Universal Coated Paper 95 g/m², 4.9mil/124 microns | All | 24 | | | 8p Bidi | Yes |
| | HP Universal Coated Paper (CAD) 95 g/m², 4.9mil/124 microns | All | 24 | | | 6p Bidi | Yes |
| | HP Heavyweight Coated Paper 130 g/m², 6.6mil/144 microns | All | 30 | | | 10p bidi | Yes |
| | HP Universal Heavyweight Coated Paper 120 g/m², 6.1mil/155 microns | All | 30 | | | | Yes |
| | HP Super Heavyweight Coated Plus Matte Paper 210 g/m², 10.2mil/130 microns | All | 48 | | | | Yes |
| | HP Colored Paper Fluorescent Yellow 100 g/m², 5mil/127 microns | All | 24 | | | 4p Bidi | Yes |
| | HP Bright White Inkjet Bond Paper 90 g/m², 4.8mil/122 microns | All | 22 | | | | Yes |
| Photo Paper | HP Premium Instant Dry Gloss 260 g/m², 10.3mil/260 microns | Plg | 45 | 600 | 600x1200 | 16p bidi | Yes |
| | HP Premium Instant Dry Satin 260 g/m², 10.3mil/260 microns | Plg | 45 | | | | Yes |
| | HP Universal Instant Dry Gloss 190 g/m², 7.4mil/188 microns | Plg | 38 | | | | Yes |
| | HP Universal Instant Dry-Semi Gloss 190 g/m², 7.4mil/188 microns | | 38 | | | | Yes |
| | HP Professional Satin Photo Paper 300 g/m², 11.3mil/290 microns | | 45 | | | | No |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fine Art Paper | HP Collector Satin Canvas 400 g/m², 22mil/559 microns | All | 42 | 600 | 1200x1200 | 10p Uni | No |
| | HP Professional Matte Canvas 430 g/m², 22mil/559 microns | All | 38 | | | 10p Uni | No |
| | HP Aquarella Art Paper 240 g/m², 15.9mil/405 microns | | 42 | | | 10p Dpi | No |
| | HP Artist Matte Canvas 380 g/m², 18mil/457 microns | | 44 | | | 10p Uni | No |
| | HP Universal Matte Canvas 350 g/m², 18mil/457 microns | | 38 | | | 10p Uni | No |
| | HP Smooth Fine Art Paper 265 g/m², 16.5mil/420 microns | | 42 | | | 10p Uni | No |
| | HP Textured Fine Art Paper 265 g/m², 21.5mil/545 microns | | 42 | | | 10p Bidi | No |
| | HP Matte Litho-realistic Paper 270 g/m², 13mil/330 microns | | 48 | | | 10p Bidi | No |
| Film | HP Clear Film NA, 4mil/102 microns | All | 24 | 600 | 600x1200 | 6p Uni | Yes |
| | HP Matte Film 160 g/m², 5mil/127 microns | All | 24 | | | | Yes |
| Technical Paper | HP Natural Tracing Paper 90 g/m², 3mil/76 microns | All | 22 | 600 | 1200x1200 | 4p bidi | Yes |
| | HP Translucent Paper | All | 22 | | | | Yes |
| | HP Vellum 75 g/m² | All | 22 | | | | Yes |
| Back lit | HP Primium Vivid Color Backlit 285 g/m², 8.7 mil/221 microns | All | 72 | 600 | 1200x1200 | 12p Uni | Yes |
| Banner & Sign Material | HP Instant-dry Indoor Banner, Gloss | All | 45 | 600 | 600x1200 | 16p bidi | Yes |
| | HP Opaque Scrim Banner 486 g/m², 15mil/380 microns | All | 45 | 600 | 1200x1200 | 10p Uni | No |
| Self Adhesive | HP Colorfast Adhesive Vinyl 328 g/m², 6.2mil/157 microns | All | 32 | 600 | 1200x1200 | 10p Uni | Yes |

## Dowloading Paper Presets

A 'Paper Preset' is a file that contains the set of instructions that enables the printer to print on a specific type of paper. It resides in the printer's firmware or it can be downloaded from a web page to update the printer's firmware for a new paper type.

To download a paper preset from the HP Knowledge Center, use the following link: http://www.hp.com/go/knowledge_center/djz6100.

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# Printer Support

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q6651-60257 | Leg Cover | All | N/A |
| 2 | Q6651-60254 | Foot Assembly | All | N/A |
| 3 | Q6651-60260 | Bin Assembly (Includes the Bin Support) | 42-inch | N/A |
| | Q6652-60135 | | 60-inch | N/A |
| 4 | Q6651-60259 | Foot Brace Assembly | 42-inch | N/A |
| | Q6651-60262 | | 60-inch | N/A |
| 5 | Q6651-60255 | Legs Assembly | All | N/A |
| 6 | Q6651-60258 | Cross-Brace Assembly | 42-inch | N/A |
| | Q6651-60261 | | 60-inch | N/A |
| 7 | Q6651-60355 | Stand Supports | All | N/A |
| - | Q6651-60256 | Hardware Kit (Includes screws for Legs Assembly) | All | N/A |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*

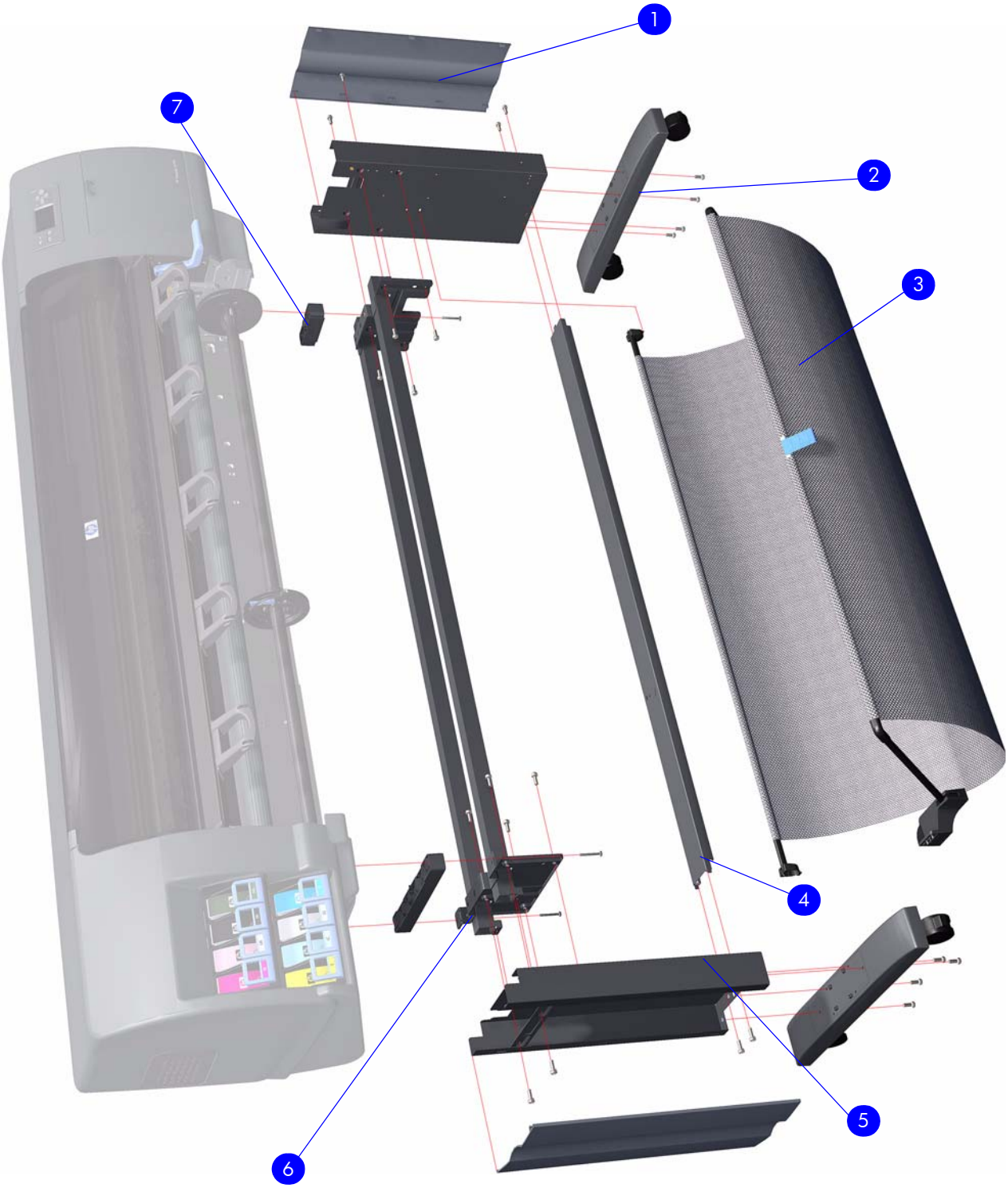


**Figure 1: Printer Support**

# Center Covers

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q6651-60333 | Rear Door | 42-inch | 283 |
| | Q6652-60124 | | 60-inch | |
| 2 | Q6651-60331 | Left Connector Cover | 42-inch | 287 |
| | Q6651-60122 | Electronics Module Extension | 60-inch | 288 |
| 3 | Q6651-60332 | Right Connector Cover | All | 281 |
| 4 | Q1271-60369 | Window Position Sensor | All | N/A |
| 5 | Q1273-60204 | Window | 42-inch | 260 |
| | Q6652-60129 | | 60-inch | |
| 6 | Q6651-60291 | Top Cover | 42-inch | 277 |
| | Q6652-60113 | | 60-inch | |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*

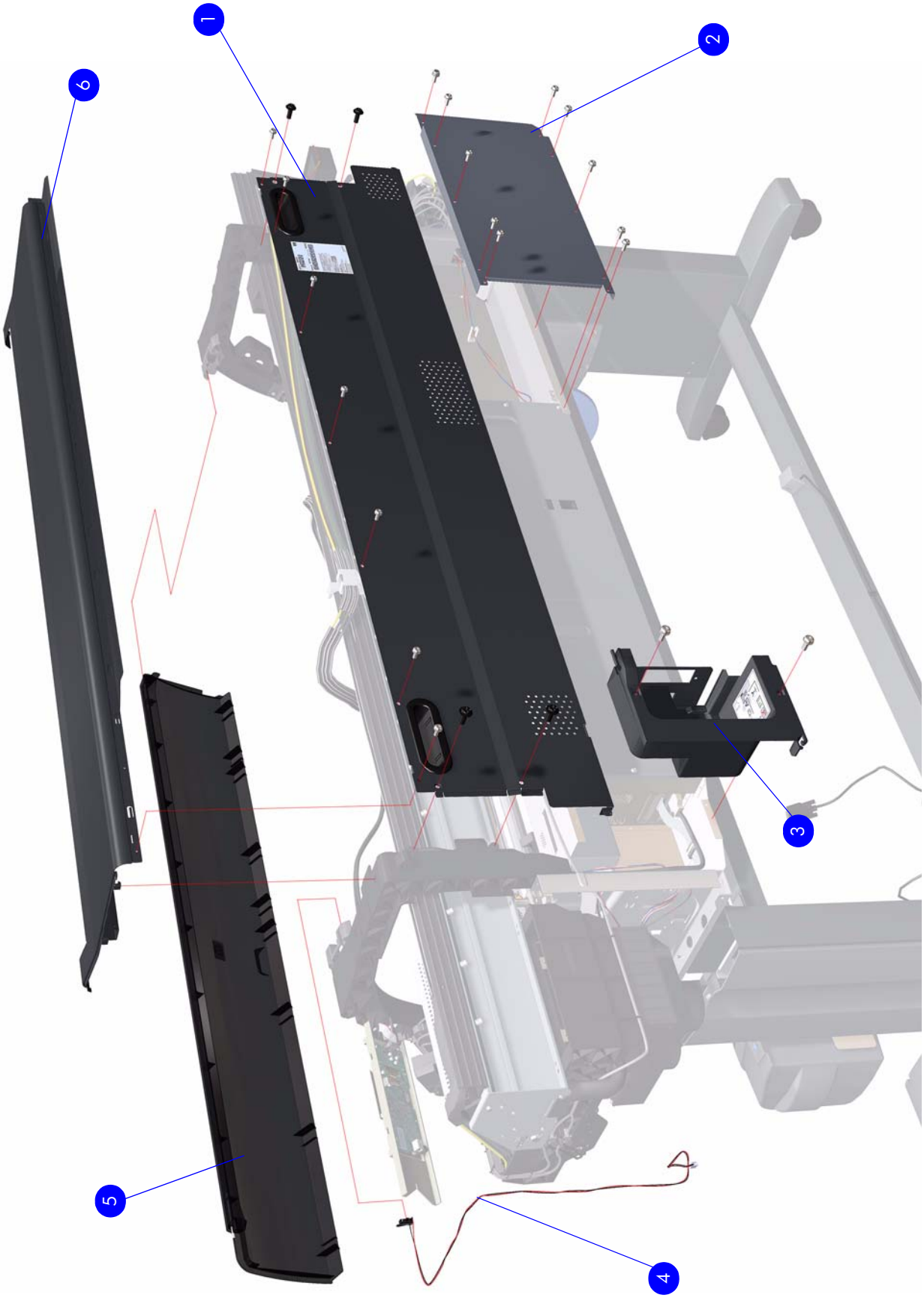


**Figure 2: Center Covers**

# Electronics Module

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q6651-60306 | Electronics Module Cables Kit | All | N/A |
| 2 | Q1273-60237 | EIO to PCI Interface Card | All | 360 |
| 3 | Q6651-60268 | OMAS Controller Card | All | 362 |
| 4 | Q6651-60305 | Sausalito PCI PCA [b] | 42-inch | 369 |
| | Q6652-60121 | | 60-inch | |
| 5 | Q6651-60282 | Main PCA Formatter (Includes Processor, Heatsink & Fan). | All | 375 |
| 6 | Q6651-60348 | Interconnect PCA | All | 357 |
| 7 | Q6651-60313 | Empty Electronics Module Assembly | All | N/A |
| 8 | Q6651-60298 | Electronics Module Metal Parts Kit | All | N/A |
| 9 | Q1273-60251 | Power Supply Unit (PSU) | All | 379 |
| 10 | Q6651-60349 | PrintMech PCA | All | 384 |
| 11 | Q1273-60249 | Memory Module SDRAM DIMM 32MX64 256M 184-DIM | All | 373 |
| 12 | Q6651-60352 | Hard Disk Drive (Includes Holder and screws) | All | 377 |
| 13 | Q6651-60282 | CPU Fan | All | |
| - | Q6672 | PCI USB PCA | All | N/A |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*
*b. The 60-inch model can be used in a 42-inch printer but a 42-inch model CANNOT be used in a 60-inch printer*

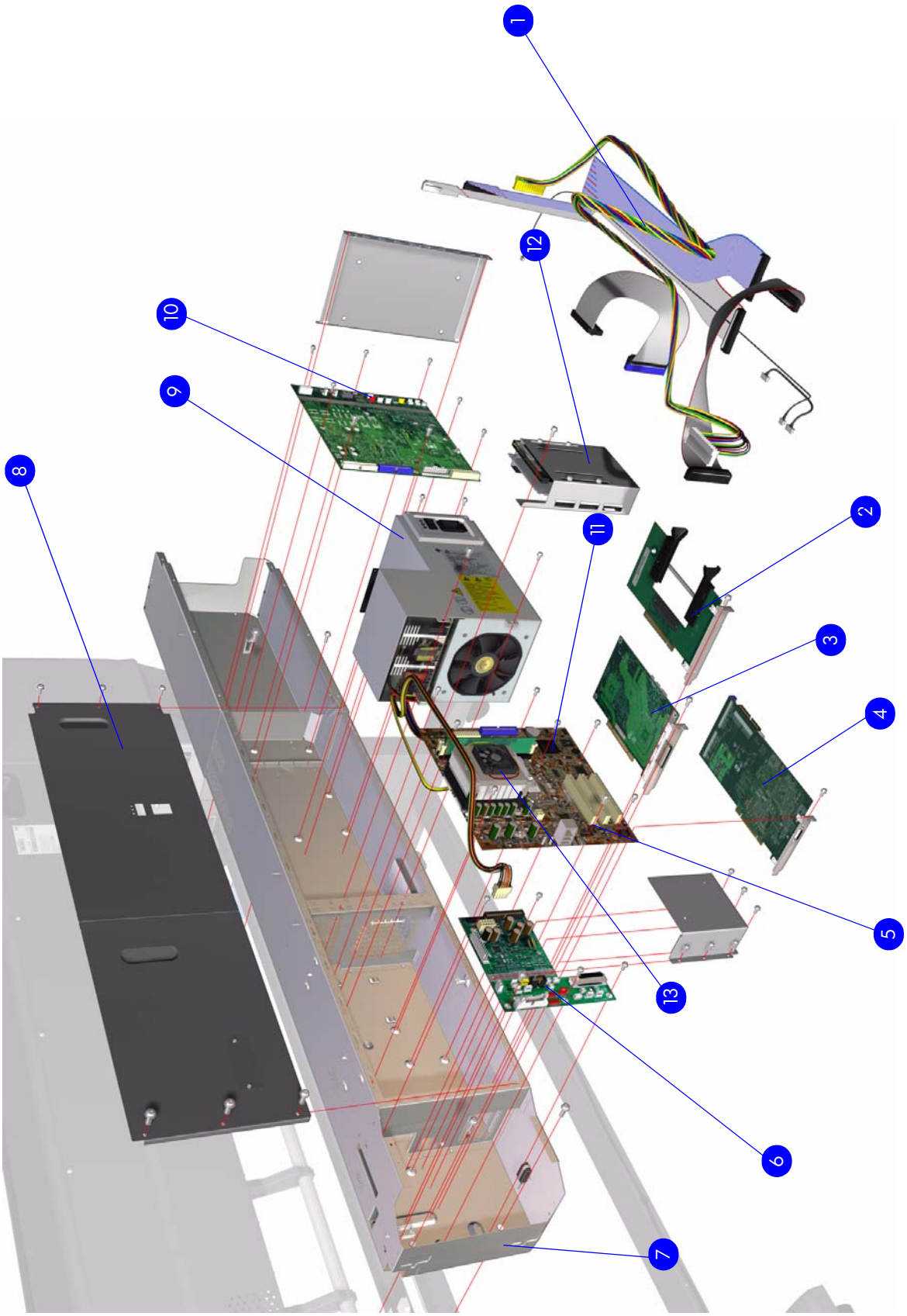


**Figure 3: Electronics Module**

# Right Cover

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q6651-60293 | Right Cover (without Maintenance Cartridge Door) | All | 264 |
| 2 | Q6651-60318 | Maintenance Cartridge Door | All | 413 |
| 3 | Q6651-60321 | Right Trim | All | 267 |
| 4 | Q1273-60240 | Front Panel[b] | All | 292 |
| 5 | Q6651-60327 | Front Panel Bezel | All | 292 |
| 6 | Q6651-60343 | Quick Reference Guide Holder | All | 264 |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*
*b. Including cable and ferrite cores*

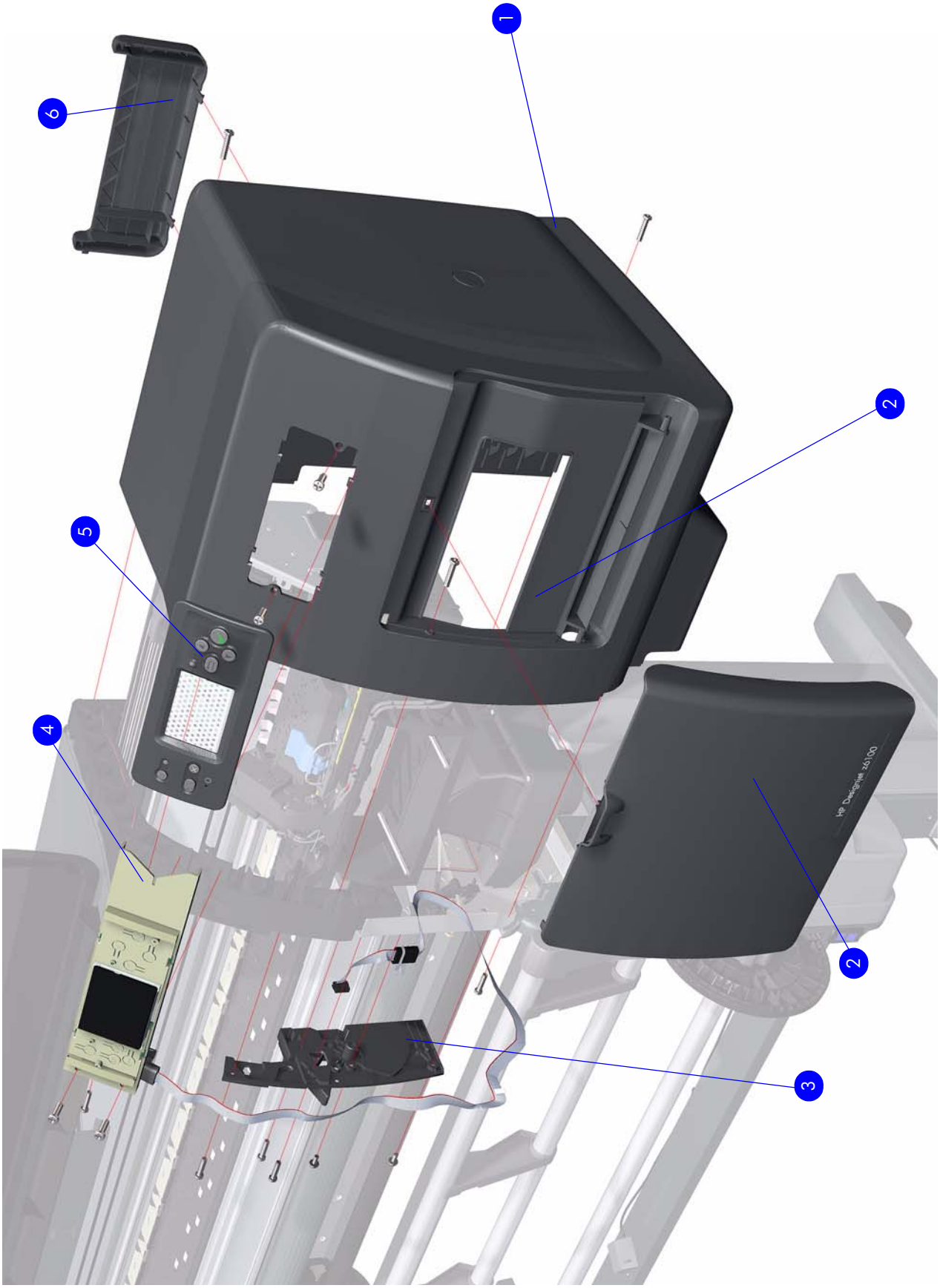


**Figure 4: Right Hand Cover**

# Left Cover

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q6651-60322 | Left Trim | All | 272 |
| 2 | Q6651-60292 | Left Cover | All | 270 |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*

**Figure 5: Left Hand Cover**

# Right Hand Assemblies

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q1273-60086 | Right Scan-Axis Bracket | All | - |
| 2 | Q6651-60284 | Service Station Assembly[b] | All | 300 |
| 3 | Q6651-60266 | Primer Valves and Primer Tubes Assembly | All | 296 |
| 4 | Q1273-60084 | Aerosol Filter | All | 307 |
| 5 | Q1273-60226 | Aerosol Fan Assembly | All | 307 |
| 6 | Q1273-60273 | Service Station Cable (Includes Maintenance Cartridge Door Sensor) | All | 300 |
| 7 | Q6651-60286 | Vacuum Fan Assembly | All | 304 |
| 8 | Q1273-60236 | Drop Detector | All | 309 |
| 9 | Q6651-60265 | Primer Assembly | All | 294 |
| 10 | Q6651-60273 | Maintenance Cartridge | All | - |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*
*b. Includes Service Station Cable*

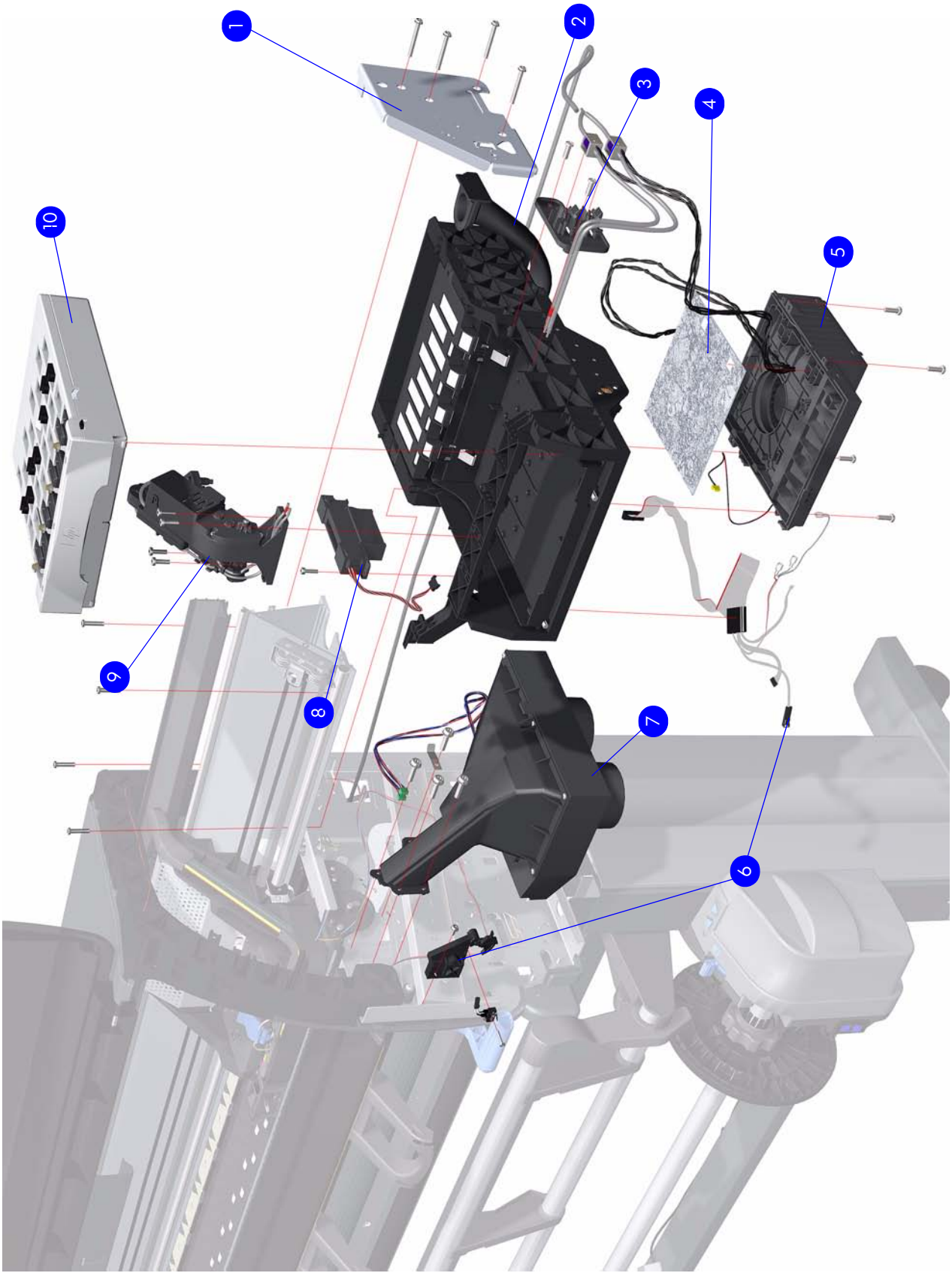


**Figure 6: Right Hand Assemblies**

# Left Hand Assemblies

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q6651-60328 | Cartridge Trays | All | 409 |
| 2 | Q6651-60288 | Lower Ink Supply Station (without APS Assembly but including Cartridge Tray) | All | 321 |
| 3 | Q6651-60287 | Upper Ink Supply Station (without APS Assembly but including Cartridge Tray) | All | 321 |
| 4 | Q6651-60315 | Left Scan-Axis Bracket | All | N/A |
| 5 | Q6651-60325 | Left Spittoon | All | 328 |
| 6 | Q1273-60245 | ISS to Cartridge Cable | All | N/A |
| 7 | Q6651-60300 | APS Assembly[b] | 42-inch | 324 |
| | Q6652-60117 | | 60-inch | |
| 8 | Q6651-60272 | Color Sensor Actuator | ALL | 395 |
| 9 | Q6651-60326 | Blanking Plate (Spittoon) | All | 331 |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*
*b. Including Pump, Holder, and Relief Valve*

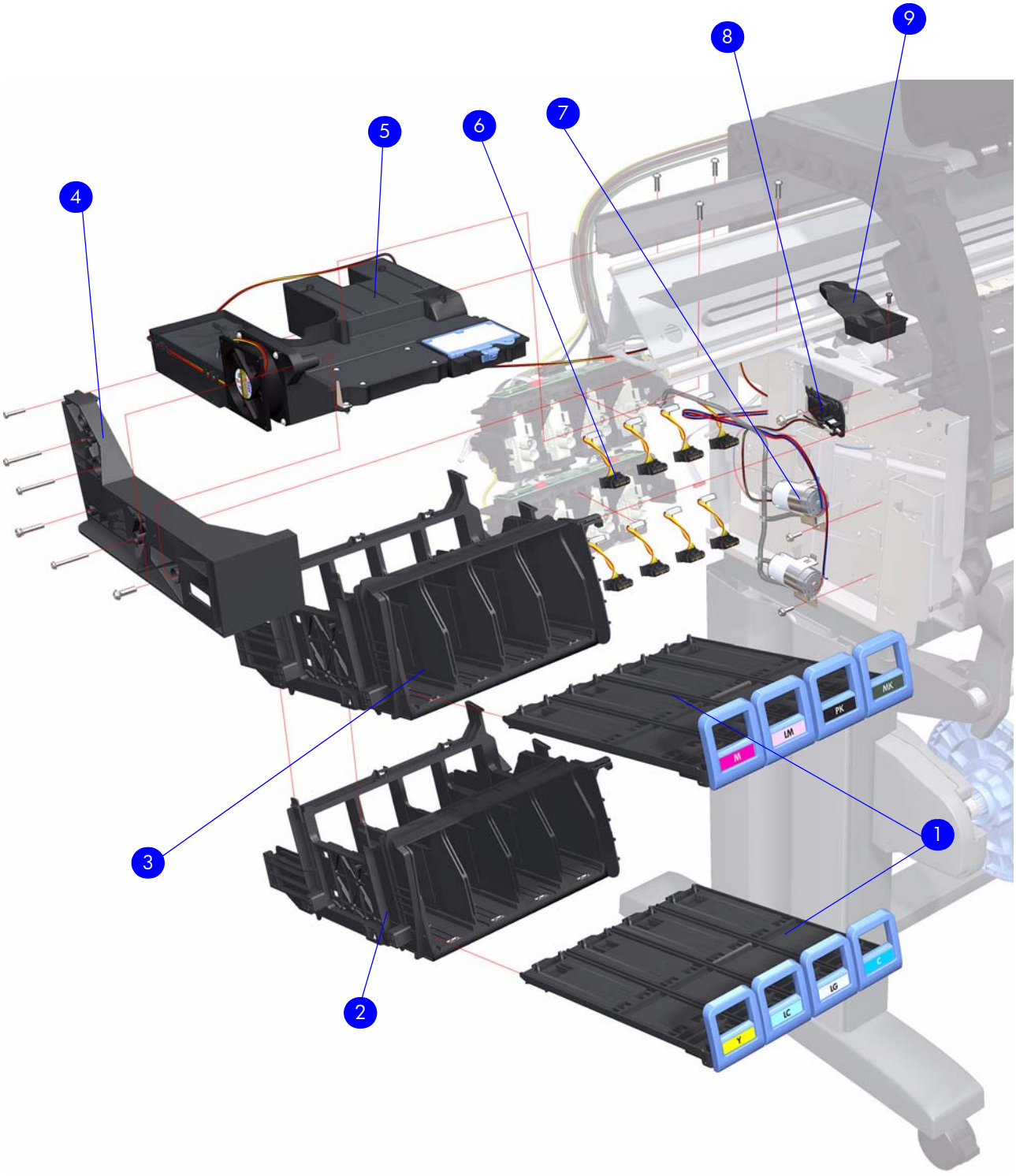


**Figure 7: Left Hand Assemblies**

# Carriage Assembly

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q6651-60297 | Line Sensor Assembly[b] | All | 390 |
| 2 | Q1273-60239 | Encoder Sensorr (Includes Encoder Strip) | 42-inch | 331 |
| | Q6652-60119 | | 60-inch | |
| 3 | Q6651-60290 | Carriage Assembly[c] | All | 339 |
| 4 | Q1273-60271 | Cutter Assembly | All | 319 |
| 5 | Q6651-60341 | Carriage Stopper (includes Carriage Stopper Screw and Media-Axis Motor Bracket) | All | 339 |
| 6 | Q6651-60271 | Color Sensor | All | 392 |
| 7 | Q6651-60335 | Setup Printhead Kit | All | N/A |
| 7 | Q6651-60337 | Carriage Flex Cables | All | 337 |
| 9 | Q6651-60338 | Carriage PCA | All | 334 |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*
*b. Includes Line Sensor Holder and Cable*
*c. Does not include, Carriage PCA, Encoder Sensor, and Color Sensor*

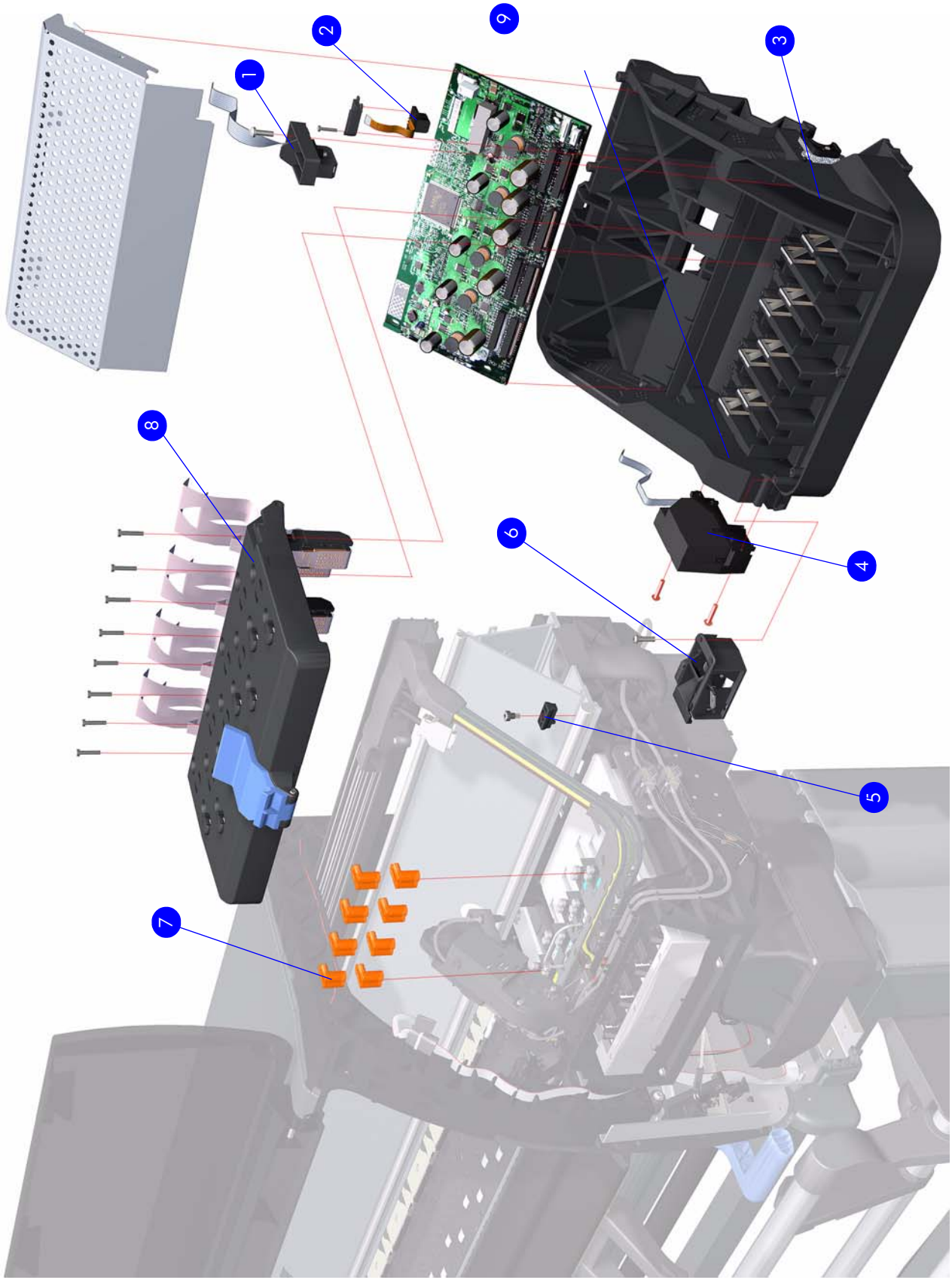


**Figure 8: Carriage Assembly**

# Scan-Axis Assemblies

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q1273-60239 | Encoder Strip and Encoder Sensor Kit | 42-inch | 331 |
| | Q6652-60119 | | 60-inch | |
| 2 | Q1273-60071 | Scan-Axis Motor | 42-inch | 346 |
| | Q6652-60128 | | 60-inch | |
| 3 | Q6651-60289 | Ink Supply Tubes and Trailing Cable | 42-inch | 312 |
| | Q6652-60112 | | 60-inch | |
| 4 | Q6651-60334 | Ink Supply Tubes Clips | 42-inch | 312 |
| | Q6652-60125 | | 60-inch | |
| 5 | Q6651-60336 | Rear Tube Shelf and Brackets | 42-inch | 312 |
| | Q6652-60126 | | 60-inch | |
| 6 | Q1273-60228 | Belt and Tensioner Assembly | 42-inch | 339 |
| | Q6652-60118 | | 60-inch | |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*

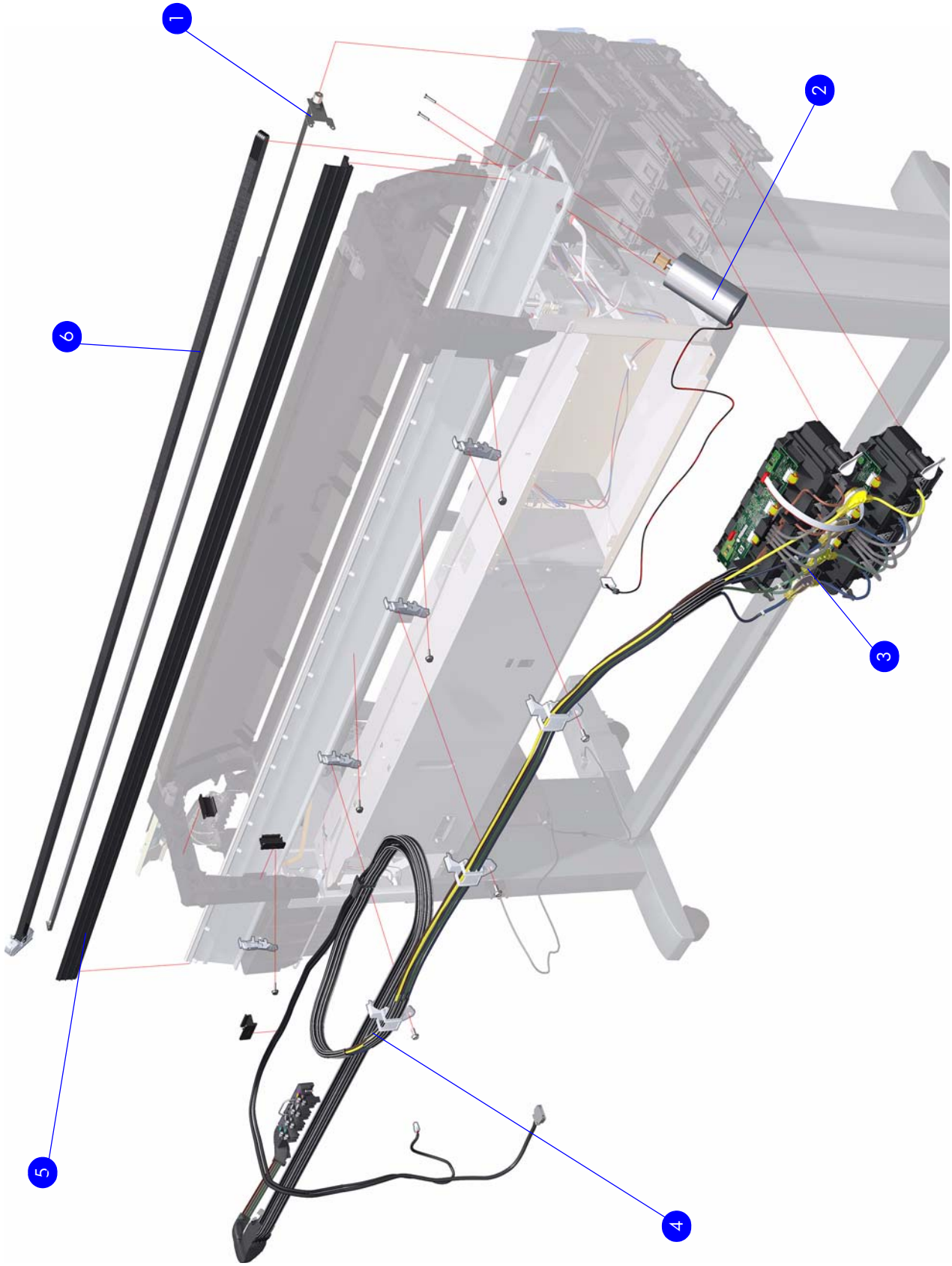


**Figure 9: Scan-Axis Assemblies**

# Drive Roller and Media-Axis Motor

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q6651-60320 | Drive Roller Encoder Kit | 42-inch | 346 |
| | Q6652-60123 | | 60-inch | |
| 2 | Q1273-60242 | Drive Roller Gears and Drive Roller Brake Kit | All | 433 |
| 3 | Q1273-60039 | Drive Roller | 42-inch | 433 |
| | Q6652-60109 | | 60-inch | |
| 4 | Q1273-60247 | Media Advance Drive[b] | 42-inch | 349 |
| | Q6652-60108 | | 60-inch | |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*
*b. includes Media Advance Drive Mount and Cable*

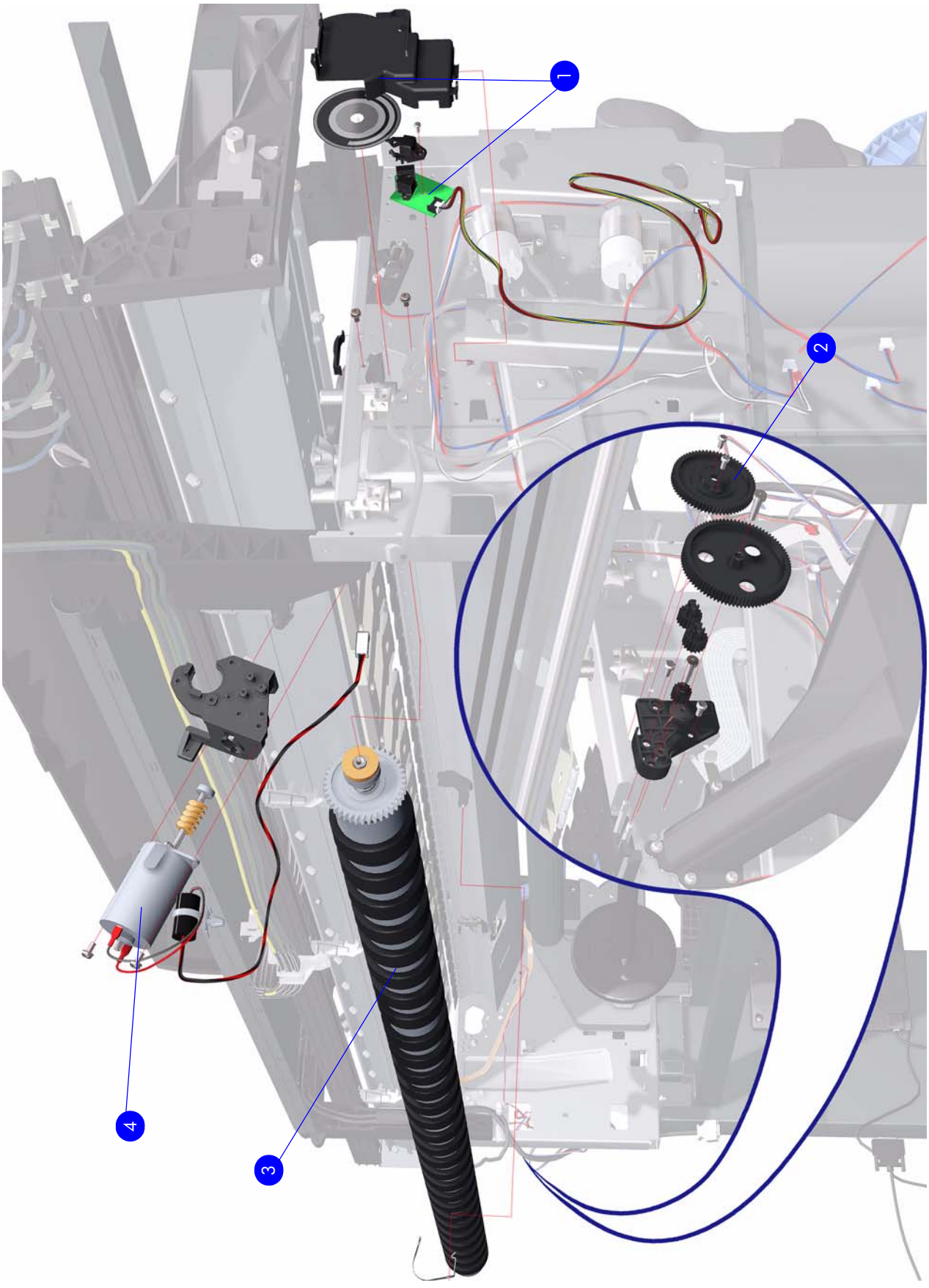


**Figure 10: Drive Roller and Media-Axis Motor**

# Paper Path Assemblies

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q6651-60281 | Center Platen[b] | 42-inch | 400 |
| | Q6652-60111 | | 60-inch | |
| 2 | Q6651-60295 | Front Platen | 42-inch | 398 |
| | Q6652-60115 | | 60-inch | |
| 3 | Q6652-60120 | Media Deflector | All | 397 |
| 4 | Q1273-60103 | Input Roller Lever | All | 411 |
| 5 | Q1273-60058 | Input Roller | 42-inch | 411 |
| | Q6652-60114 | | 60-inch | |
| 6 | Q6651-60270 | OMAS Module | All | 351 |
| 7 | Q6651-60269 | OMAS Cable | All | 364 |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*
*b. Includes the Attachment Screw Retainer*

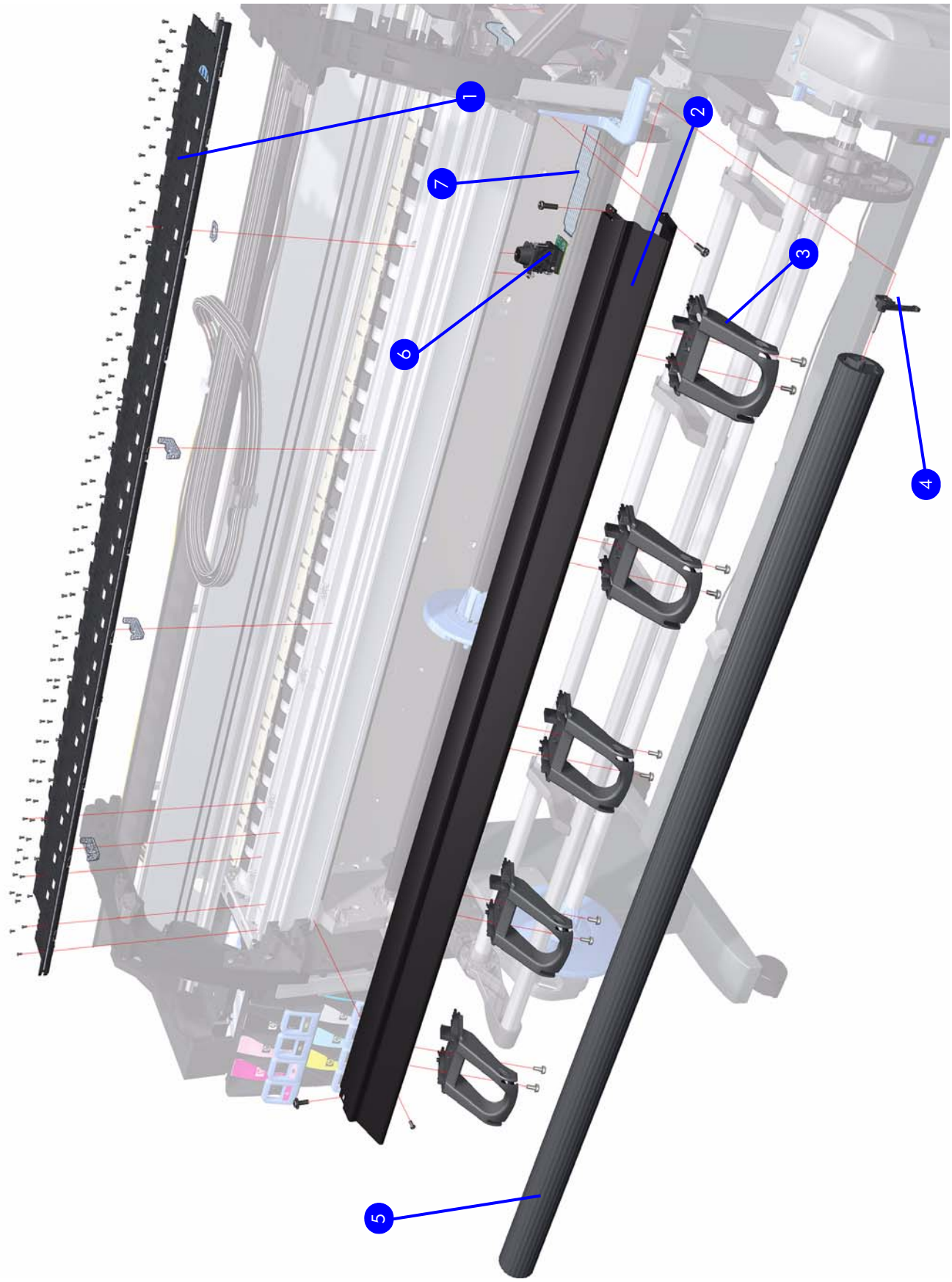


**Figure 11: Paper Path Assemblies**

# Center Guide and Pinchwheel Assembly

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q6651-60280 | Complete Pinchwheel Assembly[b] | 42-inch | 425 |
| | Q6652-60110 | | 60-inch | |
| 2 | Q6651-60345 | Center Guide | 42-inch | 430 |
| | Q6652-60130 | | 60-inch | |
| 3 | Q1273-60079 | Media Sensor | All | 415 |
| 4 | Q6651-60319 | Media Lever Assembly | All | 420 |
| 5 | Q1273-60082 | Media Lever Sensor | All | 423 |
| 6 | Q6651-60330 | Pinchwheel Kit | All | 425 |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*
*b. Includes Media Sensor*

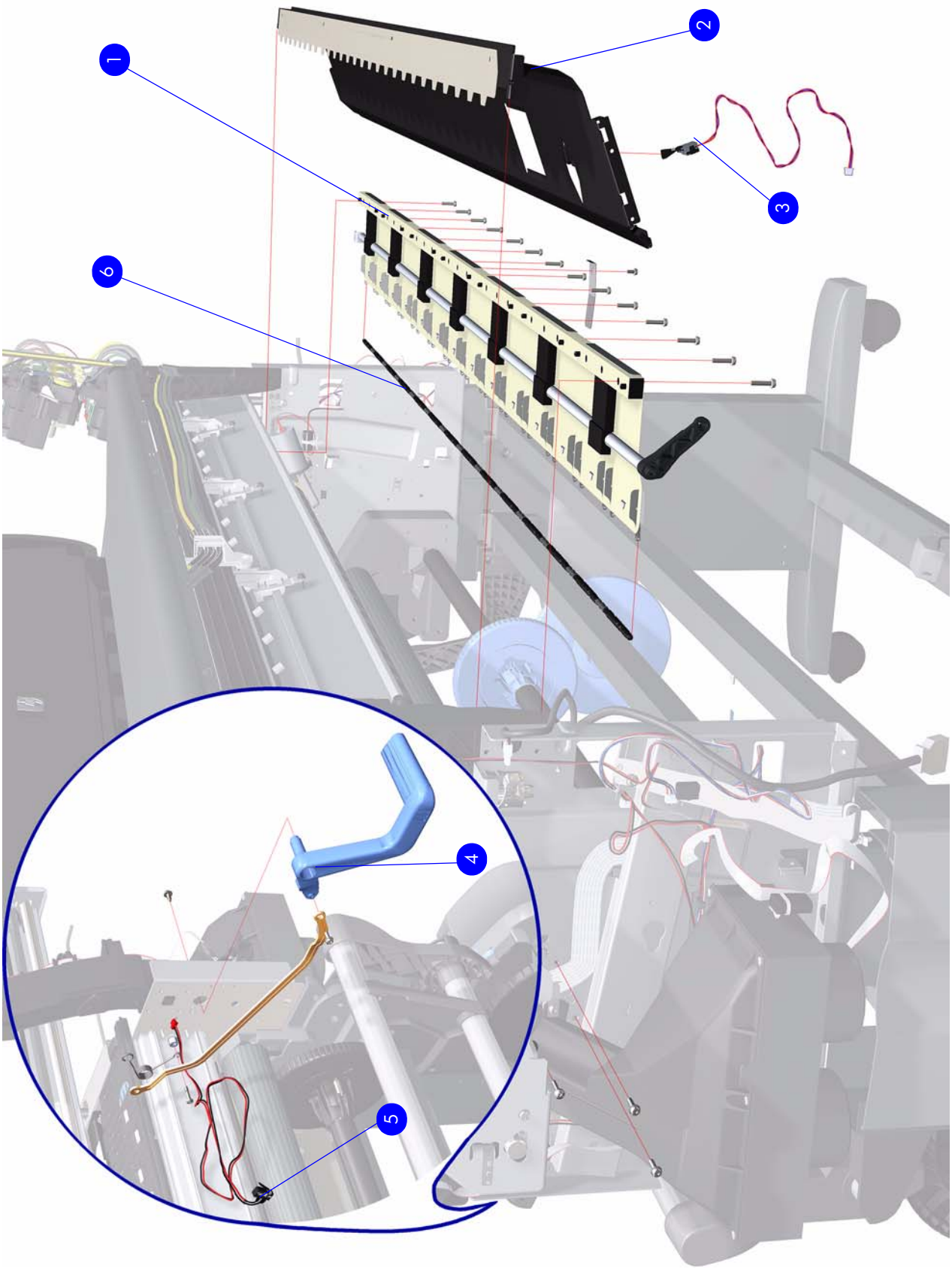


**Figure 12: Center Guide and Pinchwheel Assembly**

# Media Entry Assemblies

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q6651-60311 | Right Rollfeed Module Assembly[b] | All | 439 |
| 2 | Q6651-60339 | Spindle | 42-inch | N/A |
| | Q6652-60127 | | 60-inch | |
| 3 | Q6651-60610 | 3" Spindle Adaptor | All | N/A |
| 4 | Q6651-60274 | Spindle Hub | All | N/A |
| 5 | Q1273-60274 | Left Rollfeed Module Assembly | All | 415 |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*
*b. Includes Rewinder components*

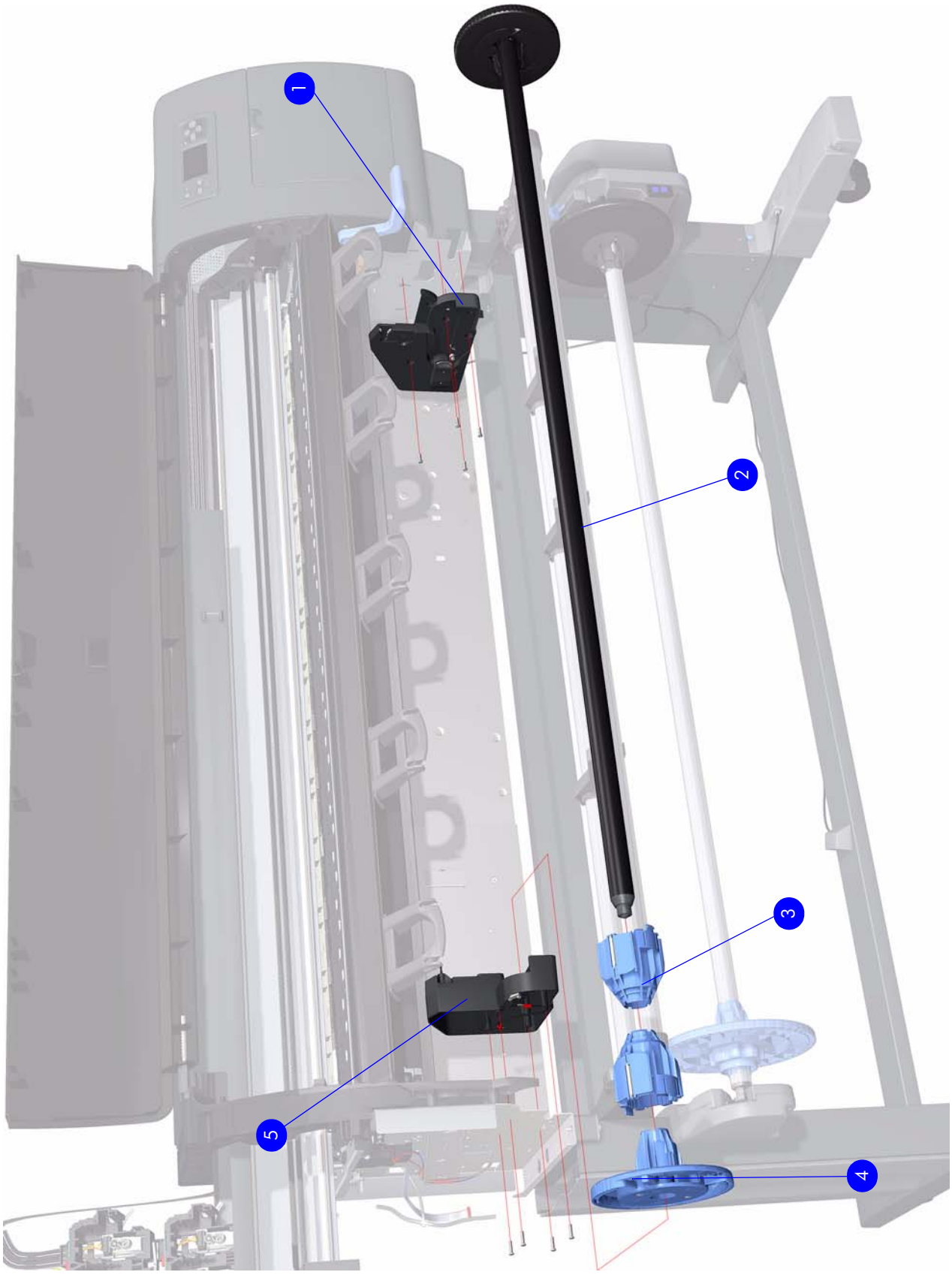


**Figure 13: Media Entry Assemblies**

# Take-Up Reel Assembly

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q6706-60902 | Take-Up Reel Deflector Support Assembly | All | 445 |
| 2 | Q6706-60904 | Take-Up Reel Motor | All | 442 |
| 3 | Q6706-60910 | Thumbscrew | All | 447 |
| 4 | Q6706-60909 | Take-Up Reel Receiver Sensor Housing Assembly | All | 447 |
| 5 | Q6706-60908 | Take-Up Reel Sensors Assembly | All | 447 |
| 6 | Q6706-60907 | Take-Up Reel Spindle Assembly[b] | 42-inch | N/A |
| | Q6652-60903 | | 60-inch | |
| 7 | Q6706-60905 | Take-Up Reel Deflector | 42-inch | 445 |
| | Q6652-60901 | | 60-inch | |
| 8 | Q6706-60906 | Take-Up Reel Tubes Assembly | 42-inch | N/A |
| | Q6652-60902 | | 60-inch | |
| - | Q6706-60901 | Take-Up Reel Spindle Hubs | All | N/A |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*
*b. Includes the Take-up Reel tubes. Not including the Take-Up Reel Spindle Hubs*

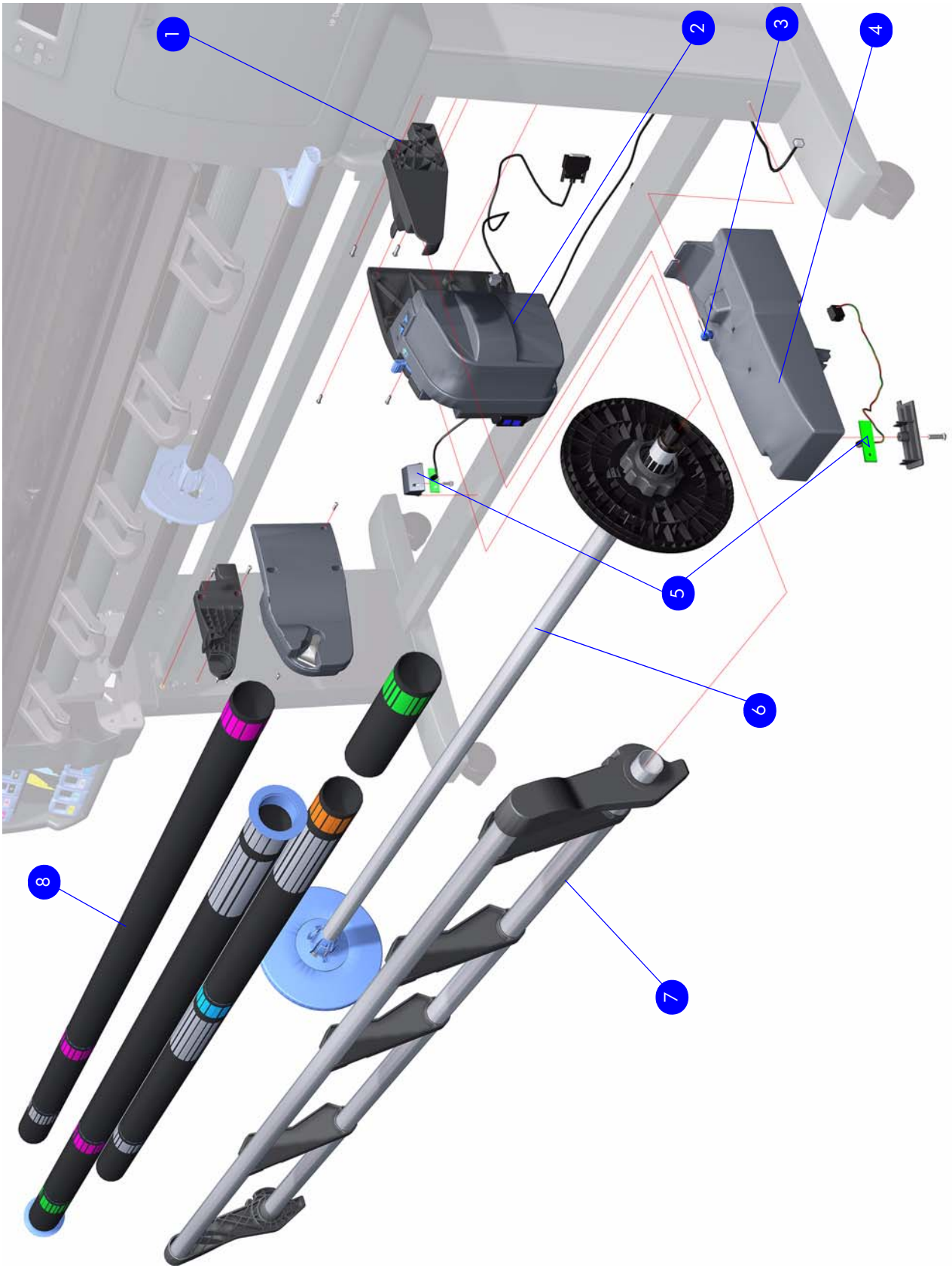


**Figure 14: Take-Up Reel Assembly**

# Miscellaneous Parts

| Reference on Figure | HP Part Number | Part Description | Size | Page[a] |
|---|---|---|---|---|
| 1 | Q1273-60097 | Right Arc | All | 439 |
| 2 | Q1273-60098 | Left Arc | All | 439 |
| - | Q6715A | User's Maintenance/cleaning kit[b] | All | |
| - | Q6651-60296 | Preventive Maintenance Kit # 1:<br>• Scan-Axis Motor (see page 238)<br>• Encoder Strip (see page 238)<br>• Belt Assembly (see page 238)<br>• Carriage Assembly without PCA, Cutter, and Color Sensor | 42-inch | N/A |
| | Q6652-60116 | | 60-inch | |
| - | Q6651-60277 | Preventive Maintenance Kit # 2:<br>• Aerosol Filter (see page 300)<br>• Service Station Aerosol Assembly (see page 300)<br>• Ink Absorber (see User's Guide)<br>• Left spittoon (see page 328)<br>• Color Sensor (see page 392)<br>• Line Sensor (see page 390)<br>• Encoder Strip (see page 238) | ALL | N/A |
| - | Q6651-60340 | Labels Kit | All | N/A |
| - | Q1273-60296 | 2 Sheets of HP Universal Instant.dry Gloss Photo media for Service Advance Calibration and OMAS Calibration | All | N/A |
| - | | Power Cord (2.5 meters) for Australia | All | N/A |
| - | | Power Cord (2.5 meters) for most European Countries, Korea, Indonesia, Portugal, Germany, Spain, France, Italy and Arabia | All | N/A |
| - | | Power Cord (2.5 meters) for Singapore, Arabic Countries and United Kingdom | All | N/A |
| - | | Power Cord (2.5 meters) for India, South Africa | All | N/A |
| - | | Power Cord (2.5 meters) for USA, Mexico, Canada, Taiwan, Japan and Arabia. | All | N/A |
| - | | Power Cord (2.5 meters) for Brazil, Thailand and Philippines | All | N/A |
| - | | Jumper Cord for Chile, Uruguay, Argentina | All | N/A |
| - | | Power Cord (2.3 meters) for Chili and Uruguay (final cable that is connected to 5961-3590) | All | N/A |
| - | | Power Cord (2.3 meters) for Argentina (final cable that is connected to 5961-3590) | All | N/A |
| - | | Power Cord (2.5 meters) for China | All | N/A |

*a. Refers to the page in the Removal and Installation Chapter (if applicable)*

*b. This accessory is available to be purchased by the customer. In case of warranty replacement you can use part number Q6651-60276*

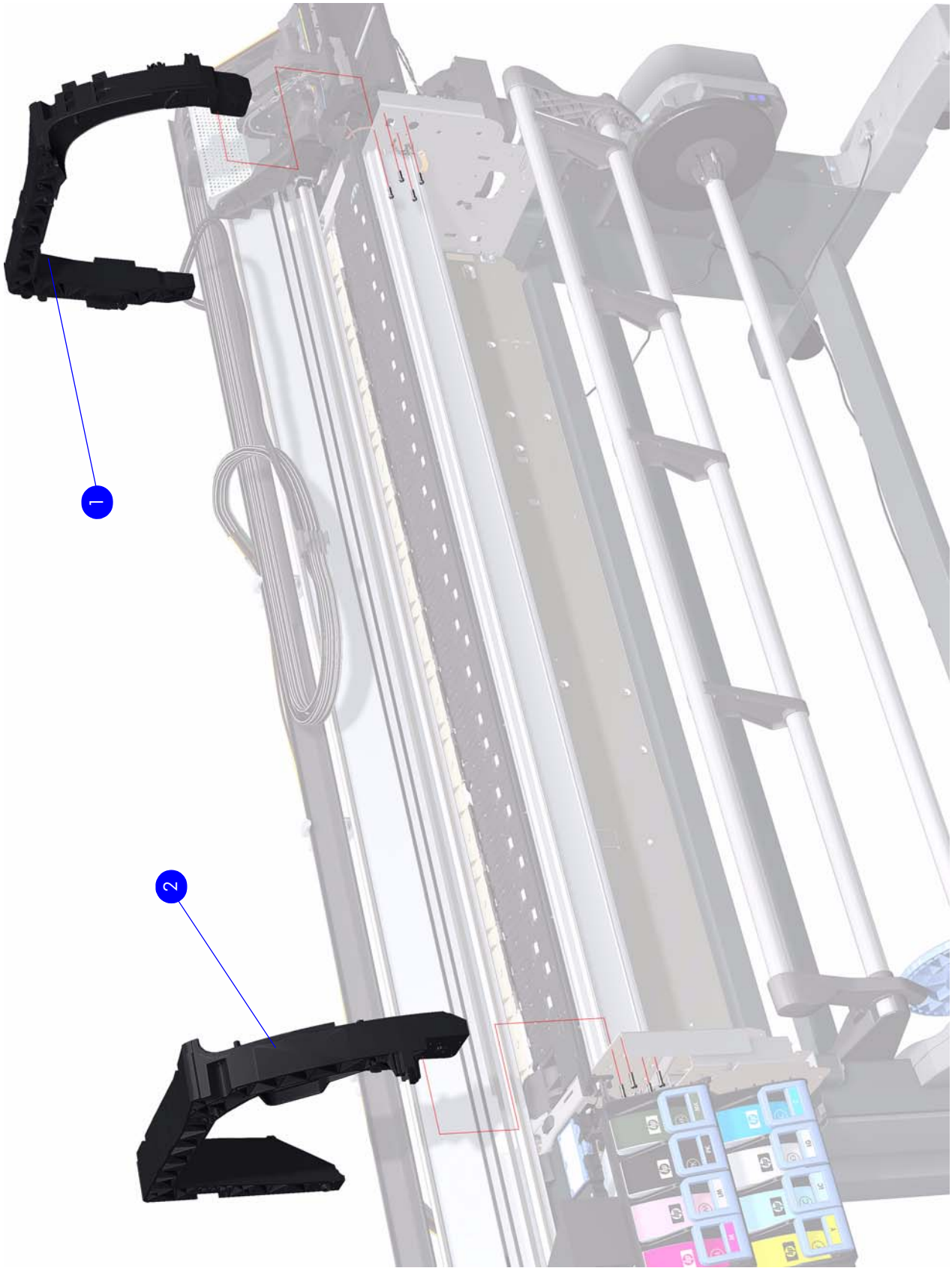


**Figure 15: Arc Assemblies**

# 8 Removal & Installation

Two contents lists are provided for this chapter to help you to quickly find the service part you want to replace. The first list is provided in *Service Part Order* and the second in *Disassembly Order*.

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- Carriage PCA ..... 334
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- Center Platen ..... 400
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- Color Sensor Assembly ..... 392
- CPU Fan ..... 371
- Cutter Assembly ..... 319
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- Drop Detector ..... 309
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- Encoder Strip and Encoder Sensor ..... 331
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- Service Station ..... 300
- Vacuum Fan ..... 304
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- Ink Supply Tubes and Trailing Cable ..... 312
- ISS to Cartridge Cables ..... 318
- Cutter Assembly ..... 319
- Ink Supply Station (ISS) ..... 321
- APS Assembly ..... 324
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- Encoder Strip and Encoder Sensor ..... 331
- Carriage PCA ..... 334
- Carriage Flex Cables ..... 337
- Carriage Assembly ..... 339
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# Introduction

This chapter is a step-by-step guide to the removal and installation of the key components of the printer. You may find it useful to tick off the steps as they are performed. Use the illustrations for each procedure to identify the parts referred to in the text.

The procedures appear in order of removal. So the whole machine can be stripped down by starting at the beginning of this chapter and working through the subsequent procedures.

**NOTE:** Before using this chapter to remove and install a new component, always make sure that you have performed the relevant service test from Chapter 4. If the test passes you will not need to replace the component.

## Safety Precautions

Review the instructions identified by WARNING and CAUTION symbols before you service the printer. Follow these warnings and cautions for your protection and to avoid damaging the printer.

**WARNING!:** Serious shock hazard leading to death or injury may result if you do not take the following precautions:

- Ensure that the AC power outlet (mains) has a protective earth (ground) terminal.
- Switch the plotter off, and disconnect it from the power source prior to performing any maintenance.
- Prevent water or other liquids from running onto electrical components or circuits, or through openings in the module.

## Electrostatic Discharge (ESD) Precautions

To prevent damage to the Printer circuits from high-voltage electrostatic discharge (ESD):

1. Do not wear clothing that is subject to static build-up.
2. Do not handle integrated circuits (ICs) in carpeted areas.
3. Do not remove an IC or a printed circuit assembly (PCA) from its conductive foam pad or conductive packaging until you are ready to install it.
4. Ground (earth) your body while disassembling and working on the Printer.
5. After removing a cover from the Printer, attach an earthing (ground) lead between the PCA common and earth ground. Touch all tools to earth ground to remove static charges before using them on the Printer.
6. After removing any PCA from the Printer, place it on a conductive foam pad or into its conductive packaging to prevent ESD damage to any ICs on the PCA.

## Required Tools

The following tools are required to disassemble and repair the Printer.

- A long Torx Screwdriver with the following attachments: T8, T10, T15, T20, and T25.
- A long thin-bladed T-10 Torx Screwdriver to remove the Primer. The blade must be longer than 12 cm with a maximum diameter of 10 mm.
- A long thin-bladed T-20 Torx Screwdriver to remove the OMAS Sensor. The blade must be longer than 11 cm with a maximum diameter of 4 mm.

- A T8 Torx Screwdriver to remove the left cover. The blade must be longer then 5 cm with a maximum diameter of 9 mm.

# Screw Types

| Type | Torx | Length (mm) | Head Type | Thread Type | Part Number |
|---|---|---|---|---|---|
| A | T-20 | 17 | Pan | Taptite | 0515-1743 |
| B | T-20 | 10 | Pan | Taptite | 0515-2282 |
| C | T-10 | 7.0 | Pan | Machined | 0515-4613 |
| D | T-8 | 5.5 | Pan | Taptite | 0515-2850 |
| E | T-15 | - | Pan | - | C3180-20001 |
| F | T-15 | 9.5 | Pan | Plastite | 0515-2981 |
| G | T-15 | 12.7 | Pan | Taptite | 0624-0769 |
| H | T-15 | 12.7 | Pan | Taptite | 0515-4706 |
| I | T-10 | 8.0 | Pan | Taptite | 0515-2200 |
| J | T-15 | 20 | Pan | Plastite | 0624-0771 |
| K | T-8 | 9.5 | Pan | Taptite | 0624-0680 |
| L | T-8 | 12.7 | Pan | Taptite | 0624-0768 |
| M | T-20 | - | Pan | - | 0515-2521 |
| N | T-20 | 35 | Pan | Sheet Metal | C6071-20025 |
| O | T-20 | 12.7 | Pan | - | 0624-1062 |
| P | T-15 | 11.6 | Pan | Machined | C2847-20018 |
| Q | T-20 | - | Pan | Taptite | 0515-2916 |
| R | T-15 | - | Pan | Taptite | 0515-1916 |
| S | T-15 | 18.4 | Pan | Machined | Q6651-20179 |

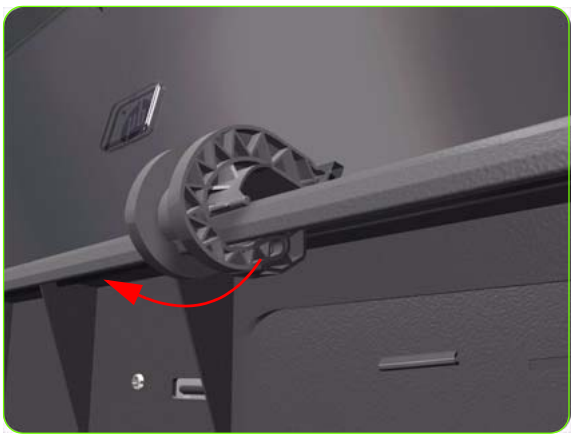
# Window (42-inch)

## Removal

**WARNING!:** Switch off the printer and remove the power cable.

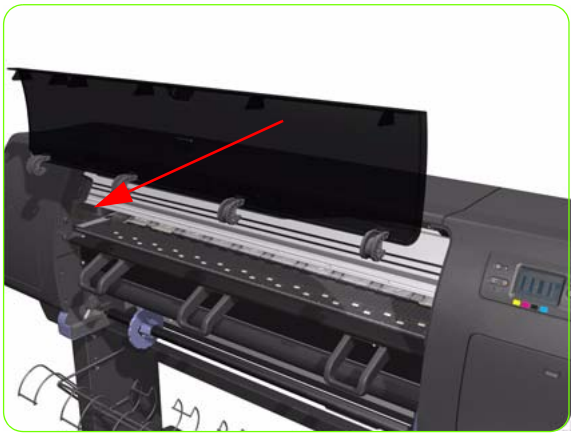
**NOTE:** Throughout this section the graphics actually show the HP Designjet 4000 Printer series but the steps of the procedure are identical for the HP Designjet Z6000 Printer series.

1. Open the Window.



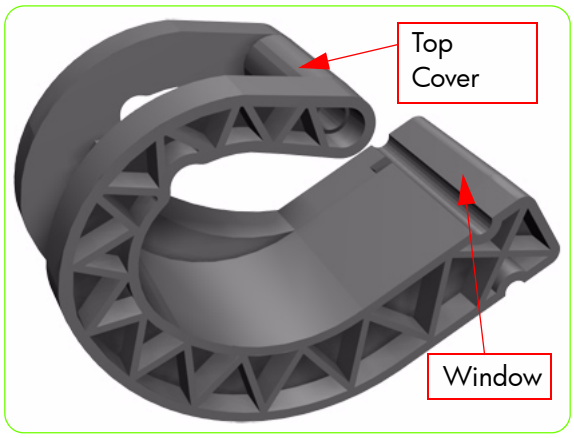
2. Unclip the Window hinges from the Top Cover.

**NOTE:** Since the hinges are very hard to unclip, it is recommended that you use a screwdriver or other tool to forcefully unclip the Window hinges from the Top Cover.

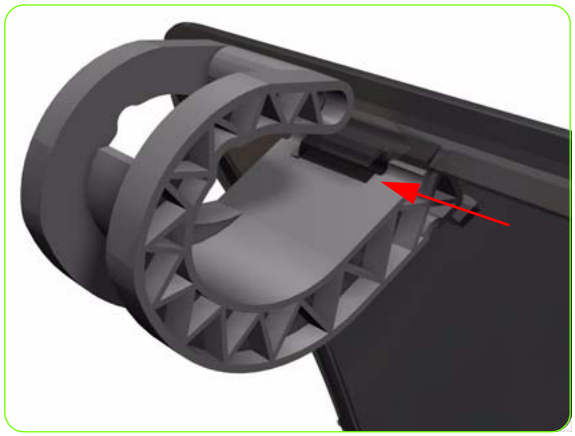


3. Remove the Window from the Printer.

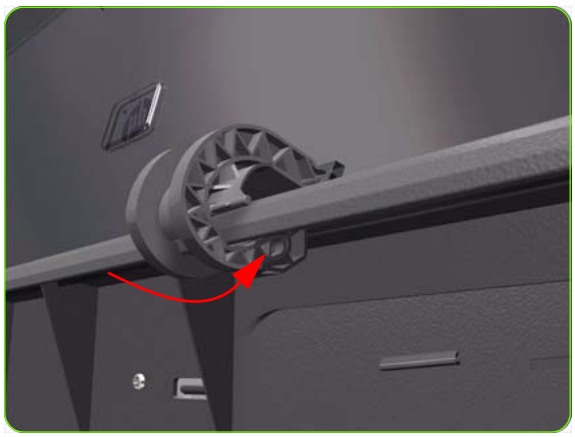
## Installation of New Window




1. Identify the two ends of the Window hinge (four in total) - one end is clipped to the Window and the other to the Top Cover.



2. Slide the Window hinges on to the Window.



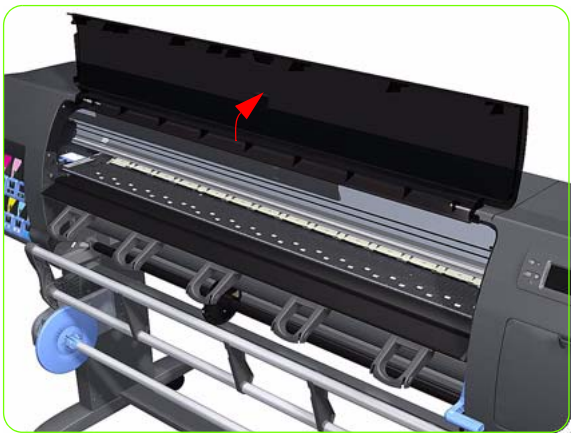
3. Clip the Window Hinges to the Top Cover.

**NOTE:** Since the hinges are very hard to clip, you will need to forcefully clip the Window hinges to the Top Cover.

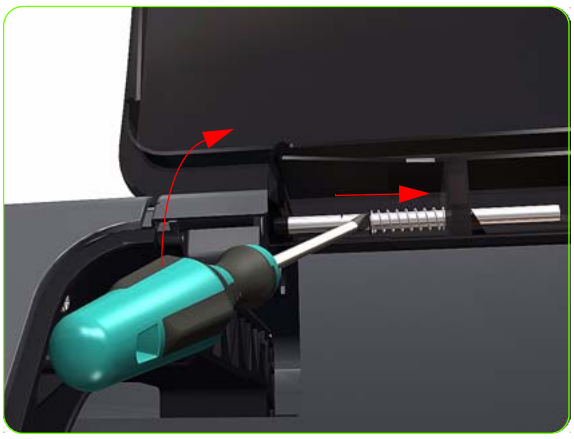
# Window (60-inch)

## Removal

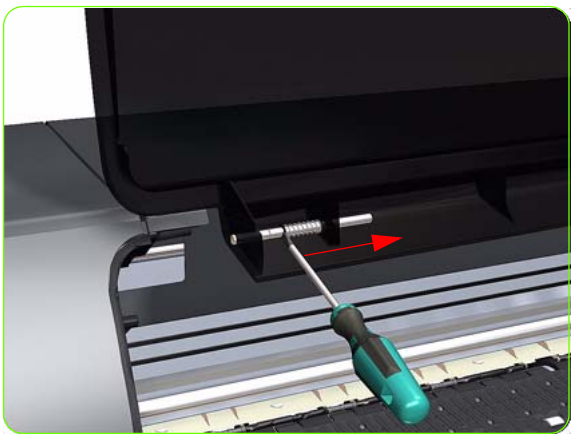
**WARNING!:** Switch off the printer and remove the power cable.



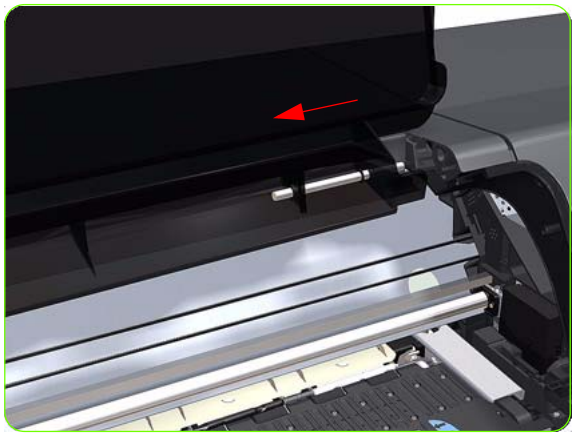
1. Open the Window.



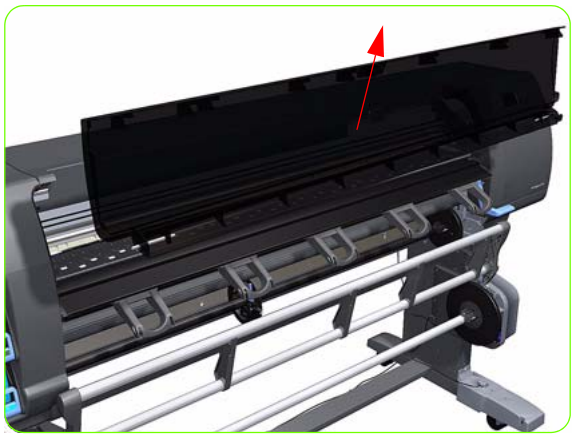
2. Use a flat bladed screwdriver to compress and hold the spring compressed.



3. Pull the window towards you enough to release it from the left attachment.



4. Slide the Window to the left to release it from the right attachment.



5. Remove the Window from the Printer.

# Right Cover

## Removal

**WARNING!:** Switch off the printer and remove the power cable.

1. Unclip the Quick Reference Guide Holder from the rear of the Printer.

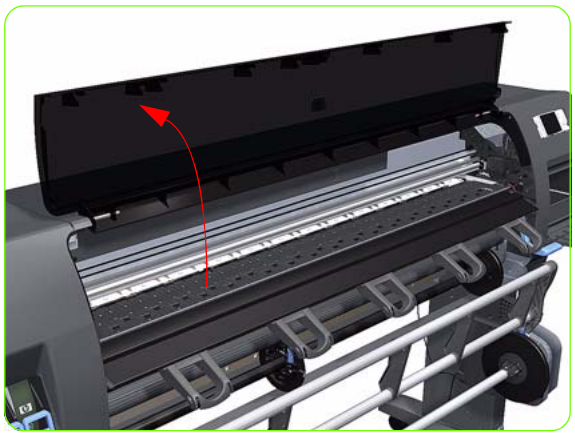
2. Using a suitable small flat-blade screwdriver, unclip the Front Panel Bezel from the Right Cover.

3. Remove the Front Panel Bezel from the Right Cover.

4. Remove two T-15 screws (**Type G**) that secure the Front Panel to the Right Cover.

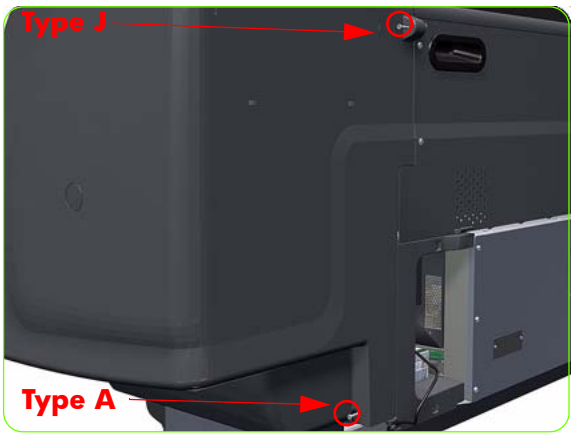
5. Open the Maintenance Cartridge Door.

6. Remove one T-15 screw (**Type J**) that secures the Right Cover.

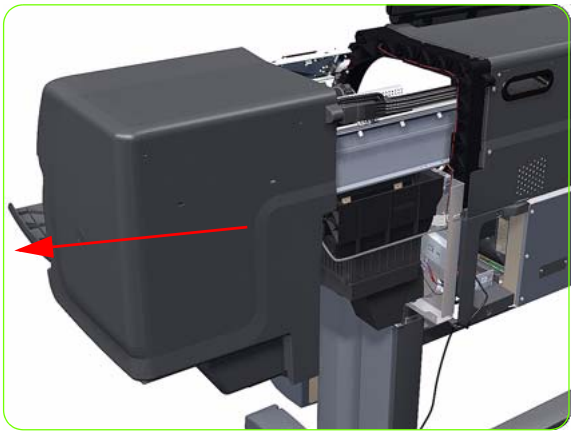


7. Open the Window.

8. Open the Window and remove two T-15 screws (**Type J**) that secure the Right Cover.




9. Remove one T-15 screw (**Type J**) and one T-20 screw (**Type A**) that secure the Right Cover from the rear of the Printer.



10. Remove the Right Cover from the Printer.

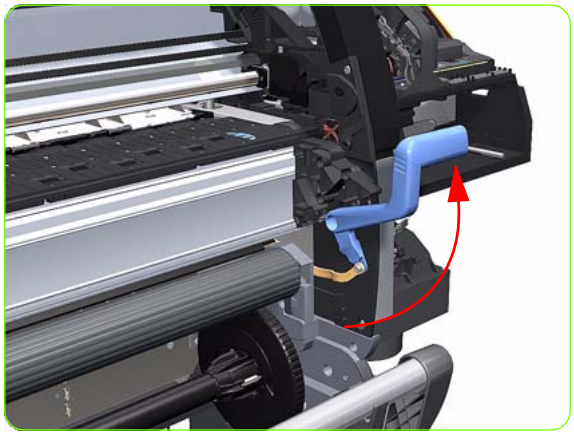
△ **CAUTION:** When installing the Right Cover, make sure you leave the Maintenance Cartridge Door open, otherwise you could damage the Maintenance Cartridge Door Sensor.

# Right Trim

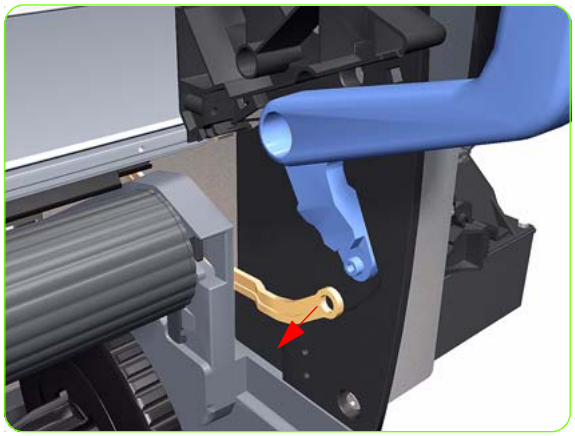
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

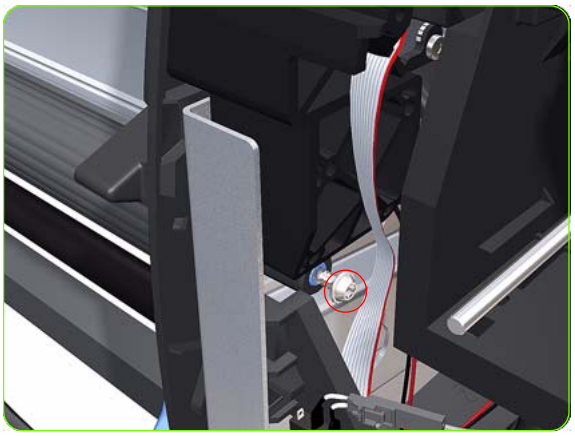
1. Remove the Right Cover ⇒ See page 264.
2. Remove the Output Platen ⇒ See page 398.
3. Raise the Media Lever.



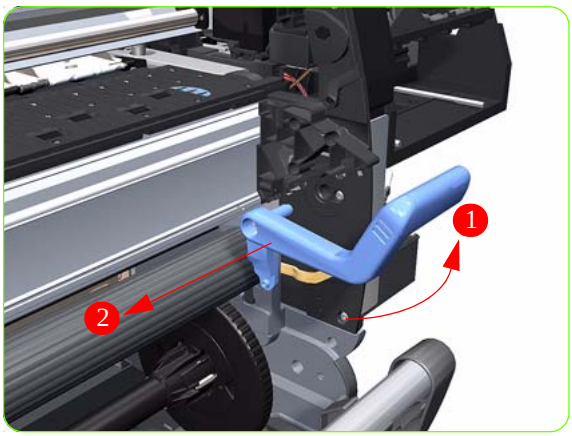
4. Remove one T-15 screw (**Type F**) that secures the Media Lever to the Linkage.



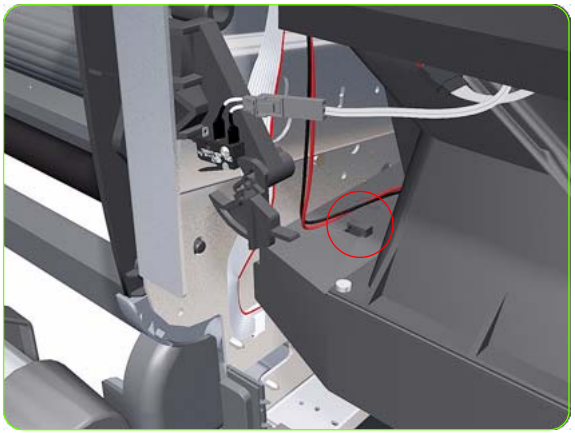
5. Disconnect the Media Lever from the Linkage.



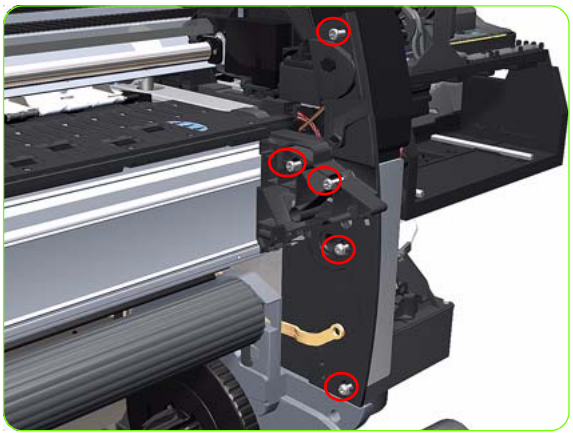
6. Remove one T-15 screw (**Type F**) that secures the Media Lever to the Right Trim.



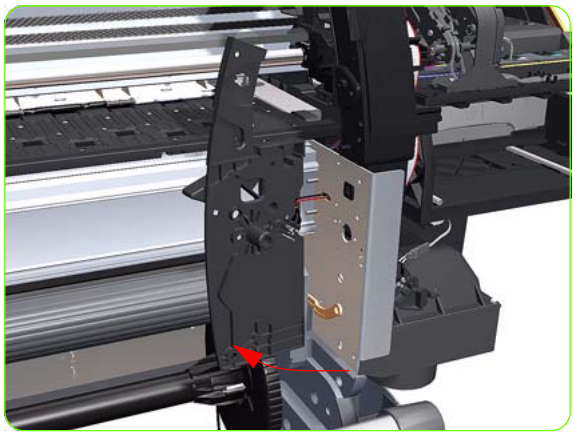

7. Lift the Media Lever and remove it from the Printer.



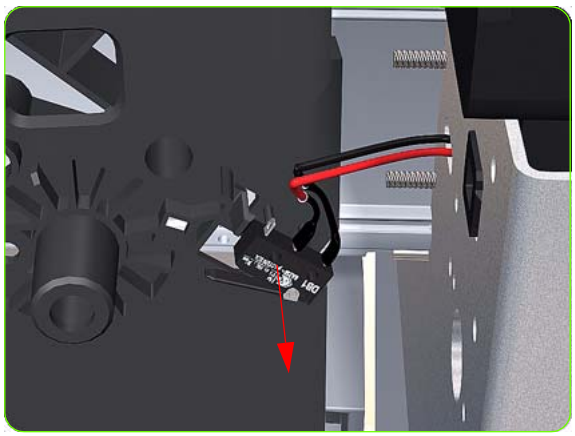
8. Unroute the Media Lever Position Sensor cable from its clip to avoid putting strain on the Media Lever Position Sensor connections during the removal of the Right Trim.



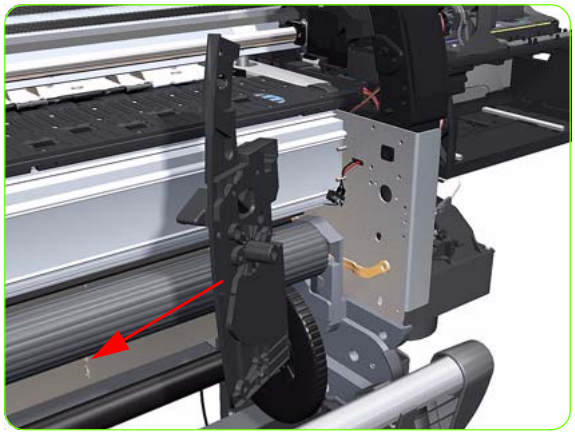
9. Remove five T-15 (**Type F**) screws that secure the Right Trim.



10. Carefully rotate the Right Trim sufficiently to gain access to the Media Lever Position Sensor.



11. Unclip the Media Lever Position Sensor of its mounting lugs on the Right Trim.

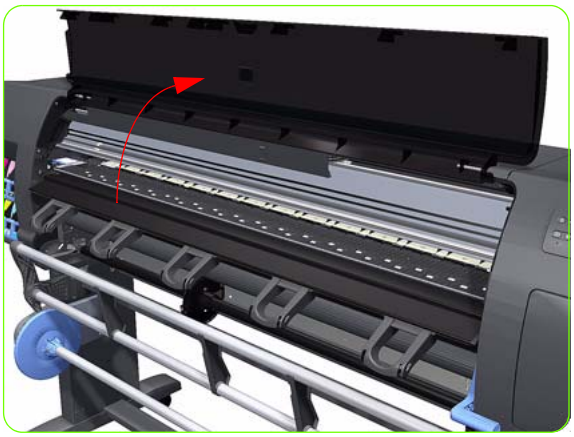


12. Remove the Right Trim from the Printer.

# Left Cover

## Removal

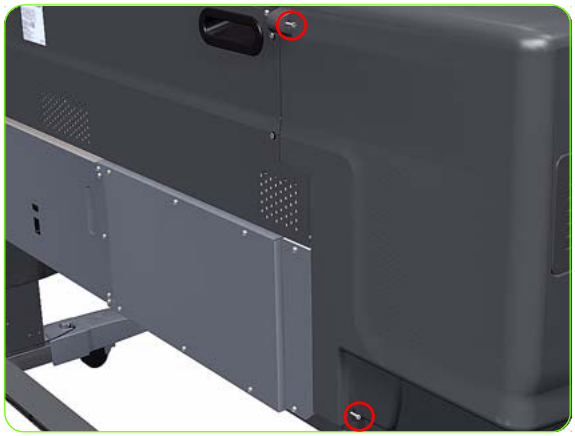
**WARNING!:** Switch off the printer and remove the power cable.



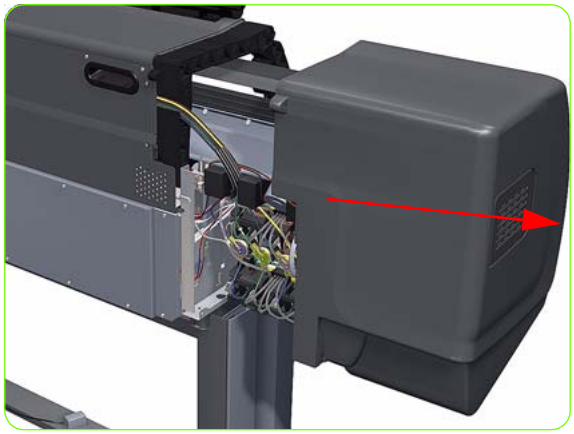
1. Open the Window.

2. Remove two T-15 (**Type J**) screws that secure the Left Cover.

3. Remove one T-15 screw (**Type J**) that secures the Left Cover.



4. Remove two T-15 screws (**Type J**) secure the Left Cover.

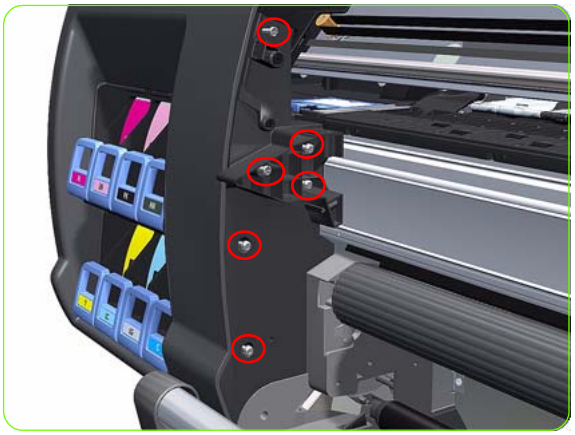


5. Remove the Left Cover from the Printer.

# Left Trim

## Removal

**WARNING!:** Switch off the printer and remove the power cable.



1. Remove the Output Platen ⇒ See page 398.
2. Remove six T-15 screws that secure the Left Trim.

3. Carefully remove the Left Trim from the Printer.

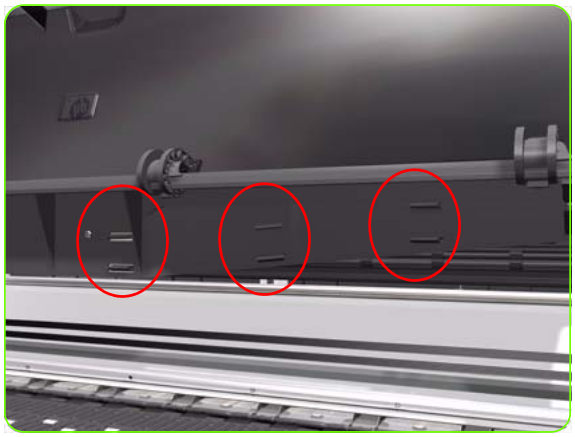
# Top Cover (42-inch)

## Removal

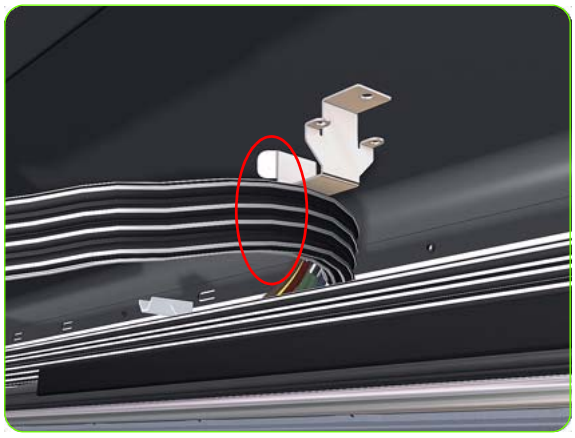
**WARNING!:** Switch off the printer and remove the power cable.

**NOTE:** Throughout this section the graphics actually show the HP Designjet 4000 Printer series but the steps of the procedure are identical for the HP Designjet Z6000 Printer series.

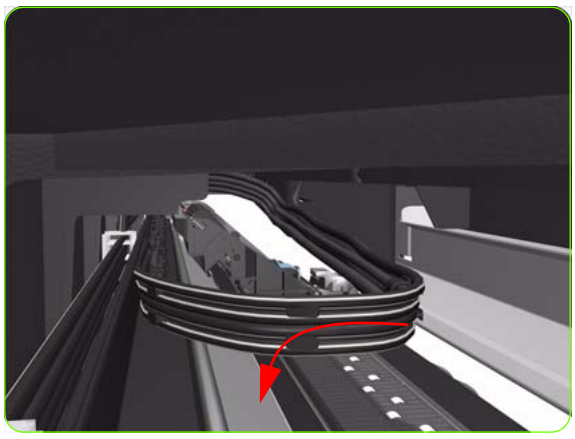
1. Remove the Right Cover ⇒ See page 264.
2. Remove the Left Cover ⇒ See page 270.
3. Release the three clips securing the Ink Supply Tubes and the Trailing Cable to the Top Cover.

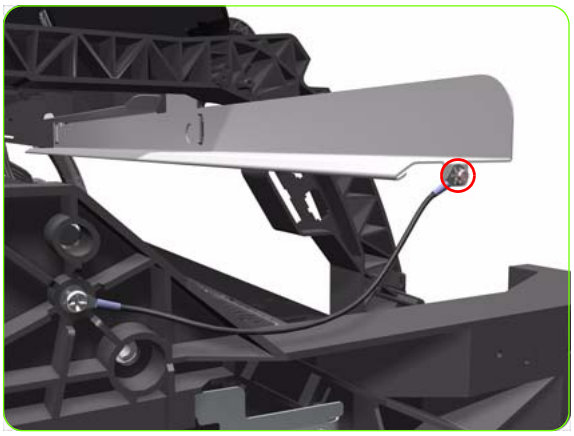


4. Release the Ink Supply Tubes and Trailing Cable from the clip underneath the Top Cover.

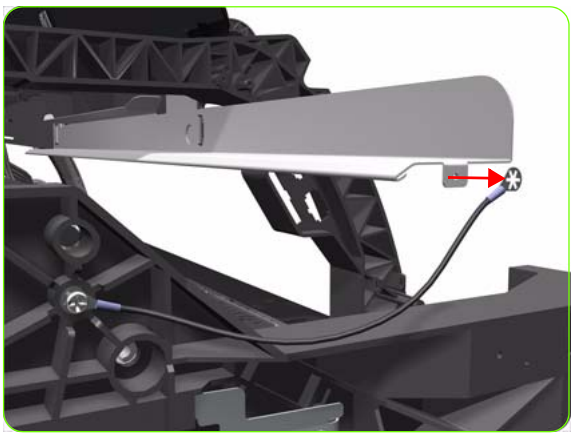


5. Remove the Ink Supply Tubes and Trailing Cable from within the Top Cover and lay them on the Print Platen.





6. Remove one T-10 (**Type I**) screw that secures the ESD Strip to the Top Cover (on the left hand side of the Printer).



7. Disconnect the ESD Strip from the Top Cover.

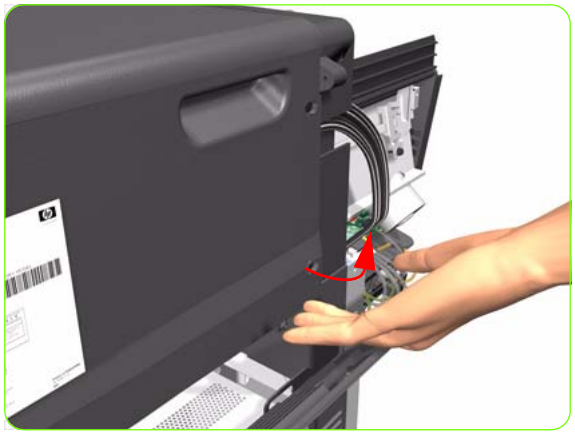
8. Remove the three T-15 screws (**Type G**) that secure the Rear Door.

**NOTE:** Each screw includes a washer (part number 3050-1267).

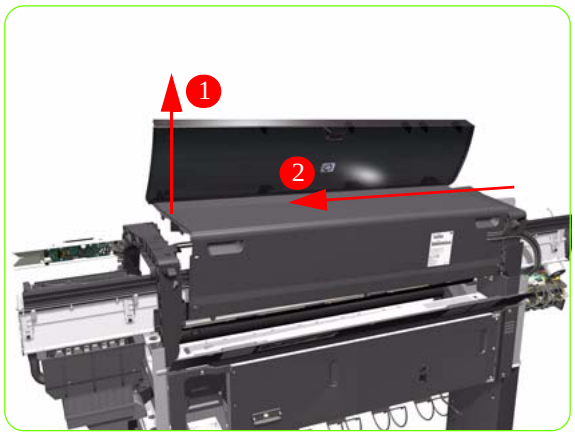
9. Open the Rear Door.

10. Remove four T-15 screws (**Type H**) that secure the Top Cover from the rear of the Printer.

11. Using a flat-head screwdriver, release the Top Cover from the right hand side of the Printer.

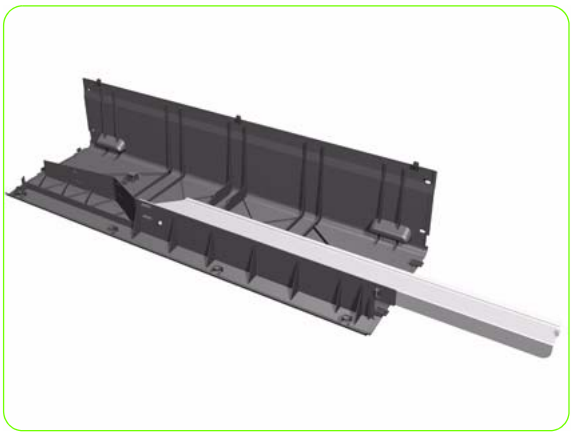


12. Release the Top Cover from the rear of the Printer.

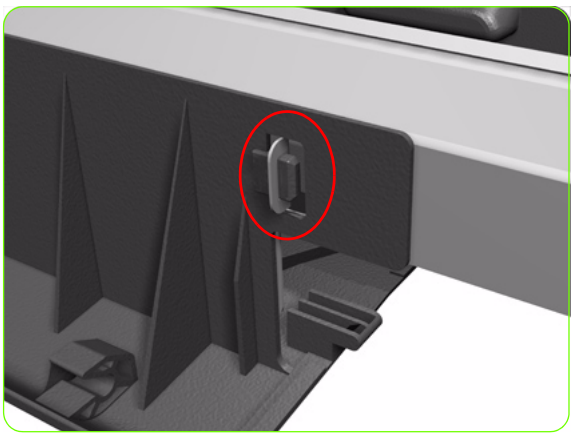



13. Raise the right hand side of the Top Cover and pull out to the right.

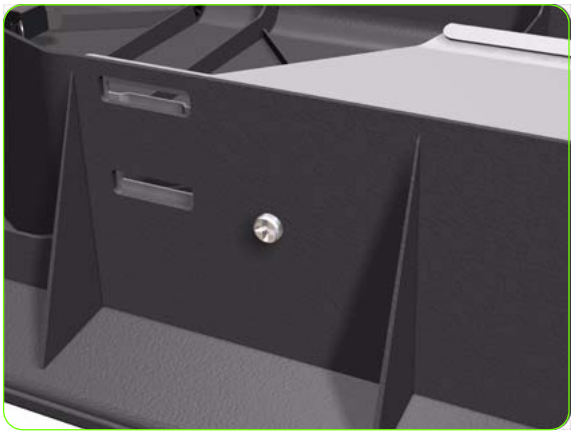
**NOTE:** If a NEW Top Cover is to be installed, take note of the following instructions before assembling the Top Cover on to the Printer:



1. Position the Metallic Support on to the Top Cover.



2. Lock the Metallic Support on to the Top Cover.



3. Install the T-20 screw that secures the Metallic Support to the Top Cover.

4. Remove the Window (⇒ See page 260) from the old Top Cover and install it on the new Top Cover.

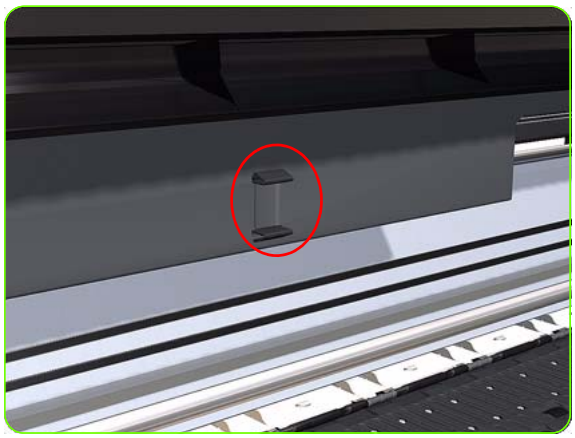
**NOTE:** When installing the Ink Supply Tubes and Trailing Cable on to the Top Cover, take note of the of the two red marks on the Ink Supply Tubes. These two red marks should be aligned with the first slot in the Top Cover as this will help with the rest of the installation.

# Top Cover (60-inch)

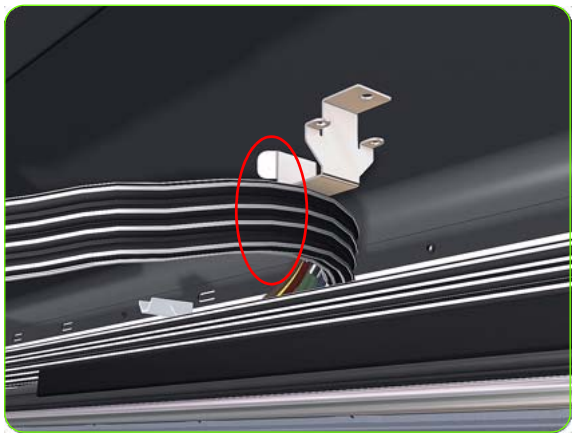
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

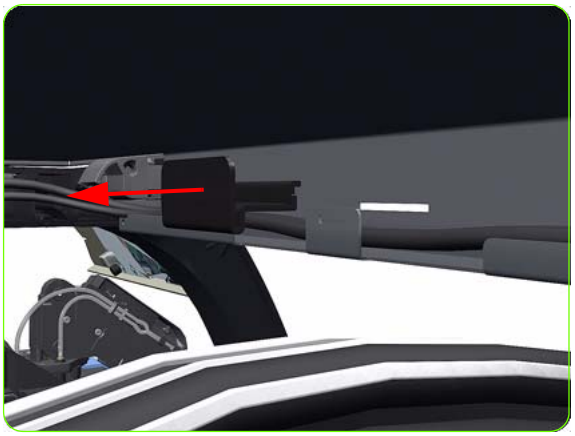
1. Remove the Right Cover ⇒ See page 264.
2. Remove the Left Cover ⇒ See page 270.
3. Remove the Rear Door ⇒ See page 283.
4. Release the clip securing the Ink Supply Tubes and the Trailing Cable to the Top Cover.



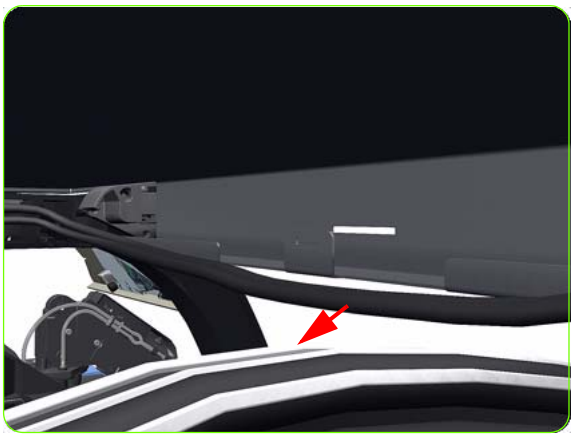
5. Release the Ink Supply Tubes and Trailing Cable from the clip underneath the Top Cover.



6. Press the clip to release it from the Top Cover.

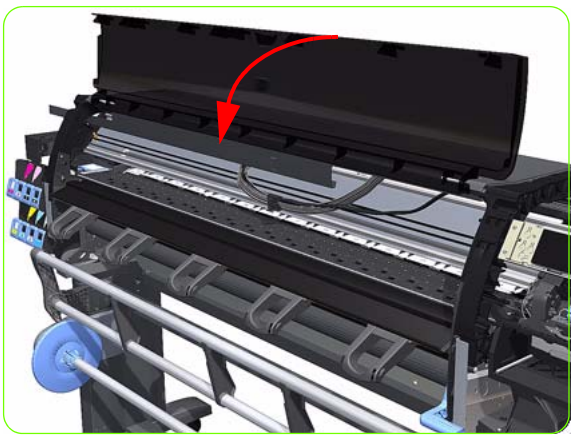


7. Remove the clip from the Top Cover.

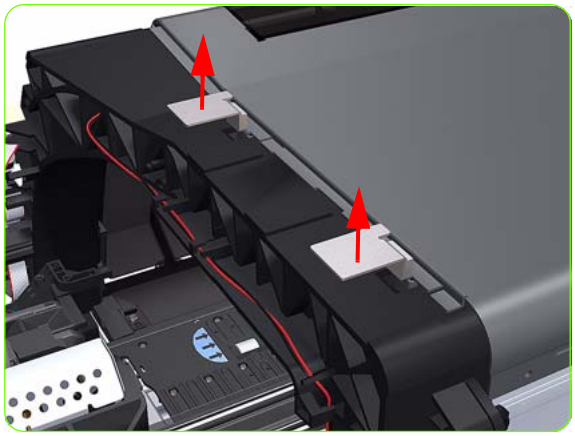


8. Unroute the Trailing Cable from the Top Cover.

9. Position the Ink Supply Tubes so they are resting on the Platen.



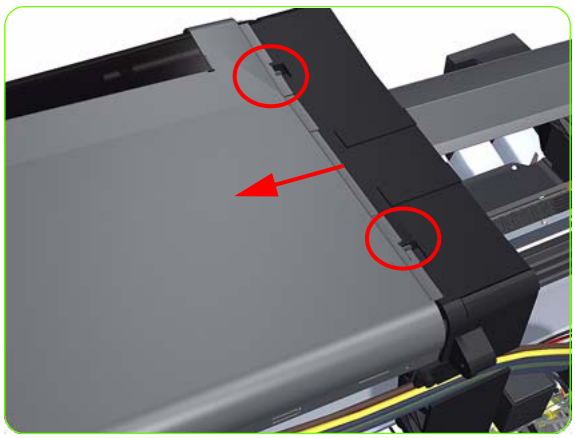
10. Close the Window.



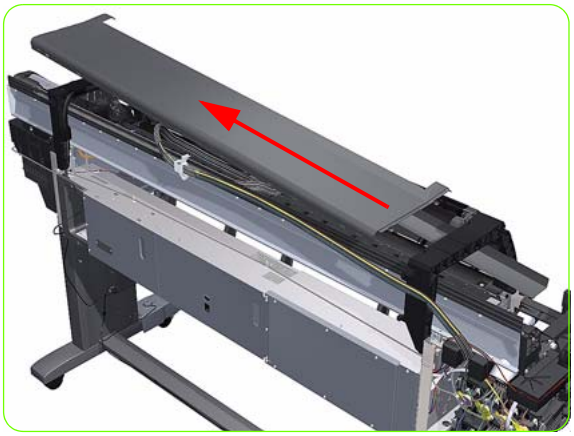
11. Remove the two locking plates.

12. Slide the Top Cover fully to the right to release the two locking clips.

13. Lift the right end of the Top Cover to release it from the right Arch.



14. Slide the Top Cover to the right to release the two locking clips.



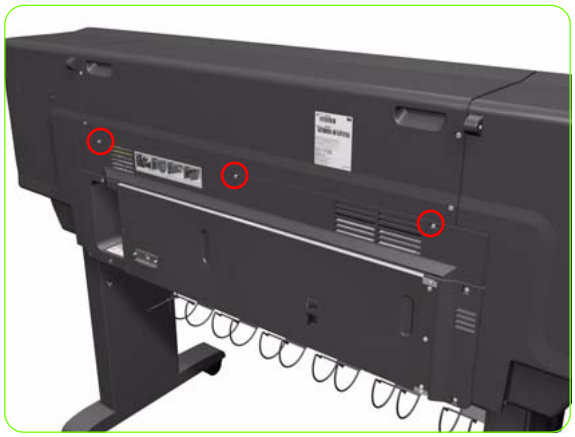
15. Remove the Top Cover from the Printer.

# Rear Door (42-inch)

## Removal

**WARNING!:** Switch off the printer and remove the power cable.

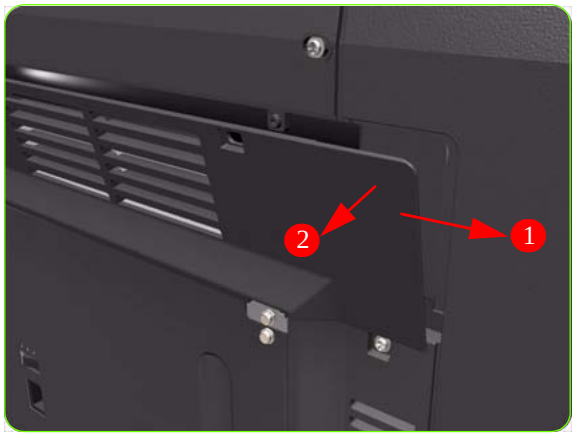
**NOTE:** Throughout this section the graphics actually show the HP Designjet 4000 Printer series but the steps of the procedure are identical for the HP Designjet Z6000 Printer series.



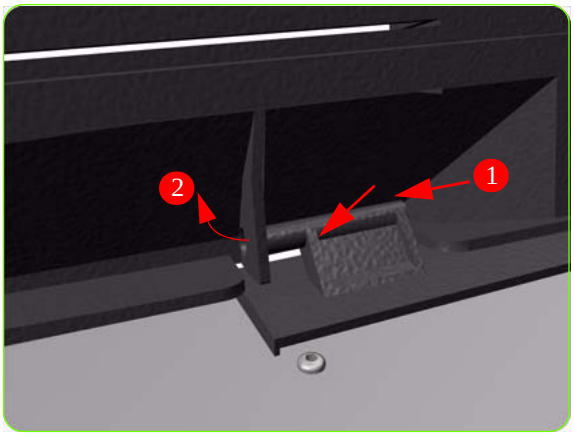
1. Remove three T-15 screws (**Type G**) from the Rear Door.

**NOTE:** Each screw includes a washer (part number 3050-1267).

2. Open the Rear Door slightly (as shown).




3. To release the right hand hinge of the Rear Door, move the Rear Door to the right (1) and towards you (2).



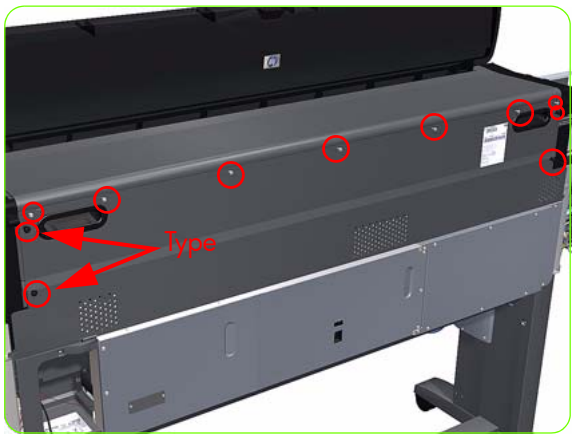

4. To release the left hand hinge of the Rear Door, move the Rear Door to the right (1) and then bend the hinge slightly (2).

5. Remove the Rear Door from the Printer.

# Rear Door (60-inch)

## Removal

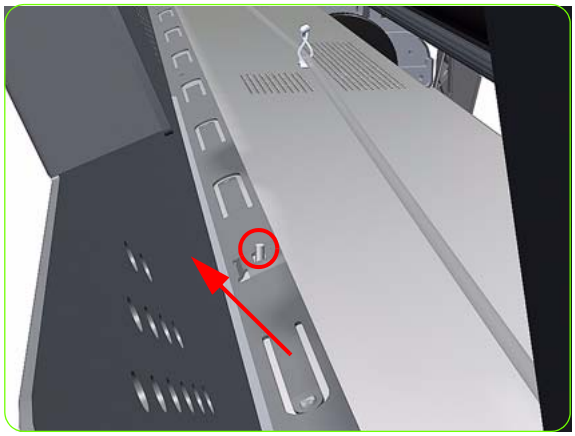
**WARNING!:** Switch off the printer and remove the power cable.




1. Remove the Left Cover ⇒ See page 270.
2. Remove seven T-15 screws (**Type G**) and the four T-15 screws (**Type X**) from the Rear Door.

**NOTE:** Each Type X screw includes a washer (part number 3050-1267).

3. Open the Rear Door slightly (as shown, approximately 30 degrees).



4. Lift the left side of the rear door sufficiently to release it from the location stud.

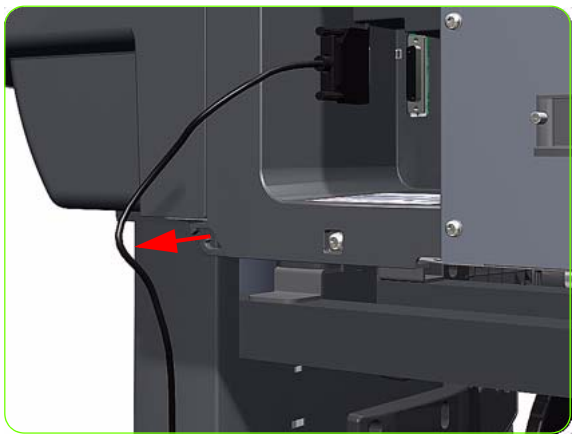
5. Remove the Rear Door from the Printer.

# Right Connector Cover

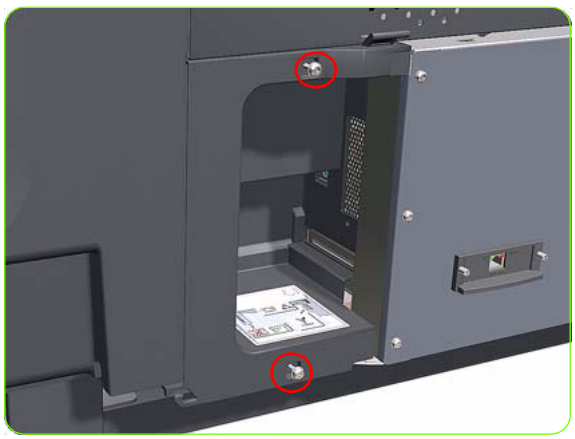
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

1. For the 42-inch model, remove the Rear Door ⇒ See page 281
2. For the 60-inch model, and optionally the 42-inch model, disconnect the TUR connector.

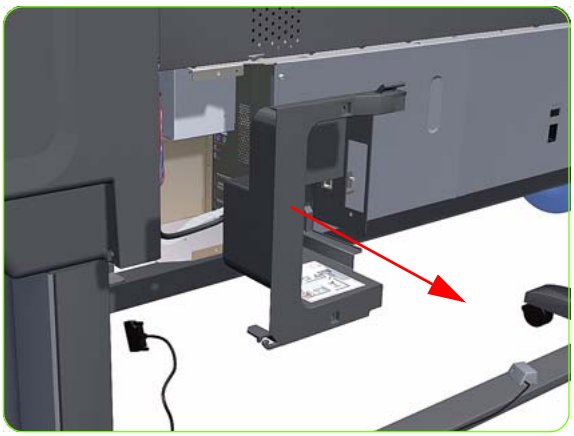


3. For the 60-inch model, and optionally the 42-inch model, unroute the TUR cable from the Right Connector Cover.



4. Remove two T-20 screws (**Type B**) from the Right Connector Cover.

5. Rotate the Right Connector Cover a few degrees counter-clockwise so it can be removed completely.



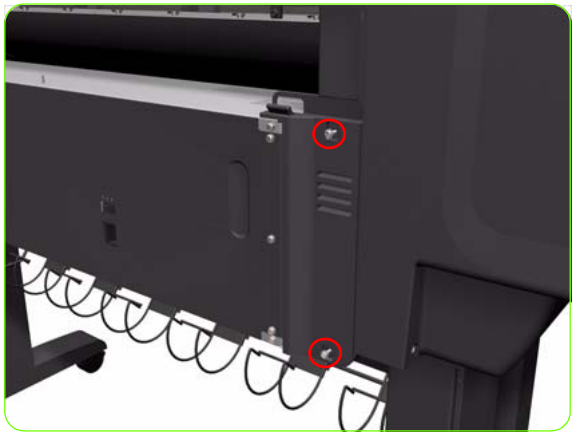
6. Remove the Right Connector Cover from the Printer.

# Left Connector Cover (42-inch)

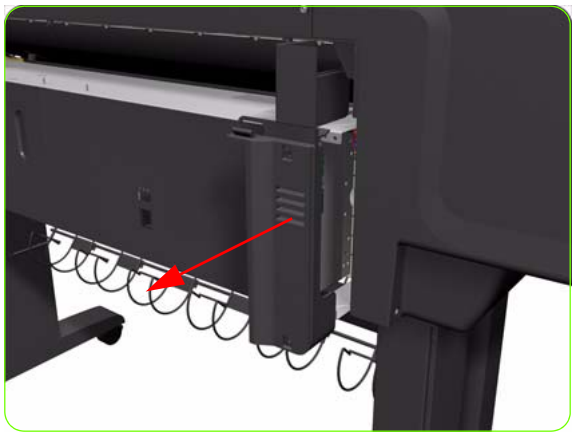
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

**NOTE:** Throughout this section the graphics actually show the HP Designjet 4000 Printer series but the steps of the procedure are identical for the HP Designjet Z6000 Printer series.



1. Remove the Rear Door ⇒ See page 281.
2. Remove two T-20 screws (**Type B**) from the Left Connector Cover.

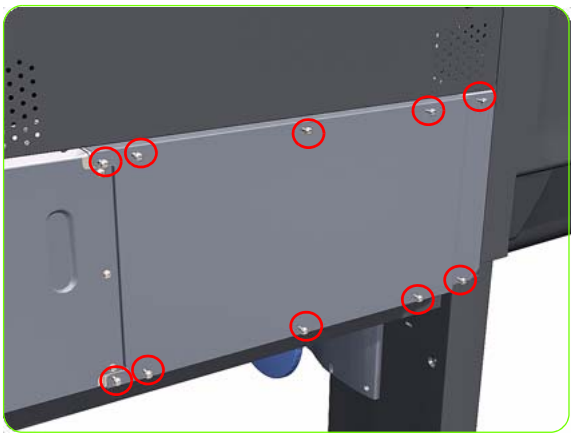


3. Remove the Left Connector Cover from the Printer.

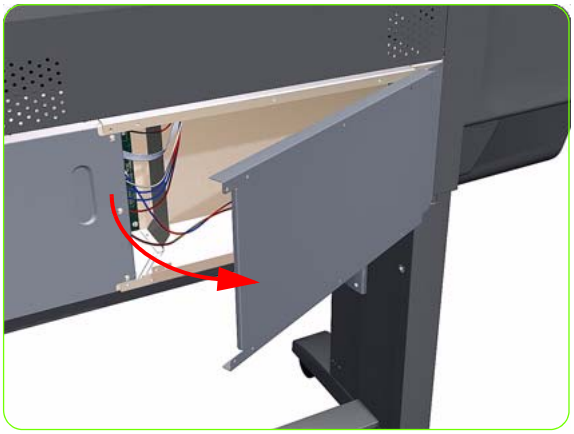
# Electronics Module Extension (60-inch only)

## Removal

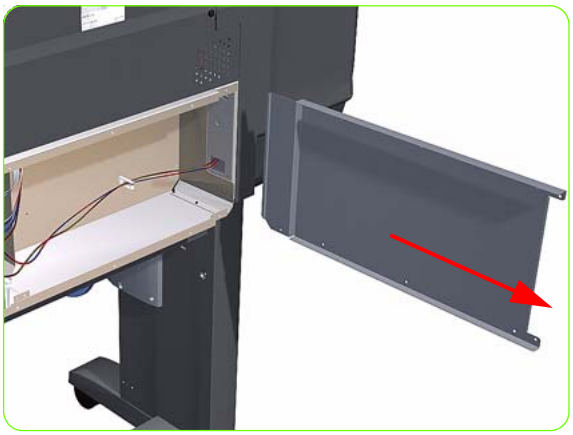
**WARNING!:** Switch off the printer and remove the power cable.



1. Remove ten T-20 screws (**Type B**) from the Electronics Module Extension.



2. Rotate the Electronics Module Extension approximately 90 degrees counter-clockwise.



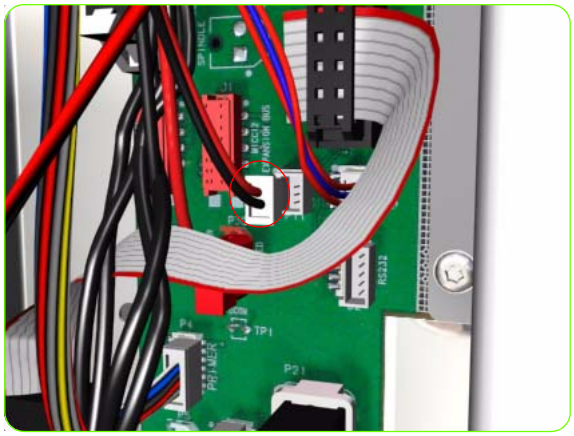
3. Remove the Electronics Module Extension from the Printer.

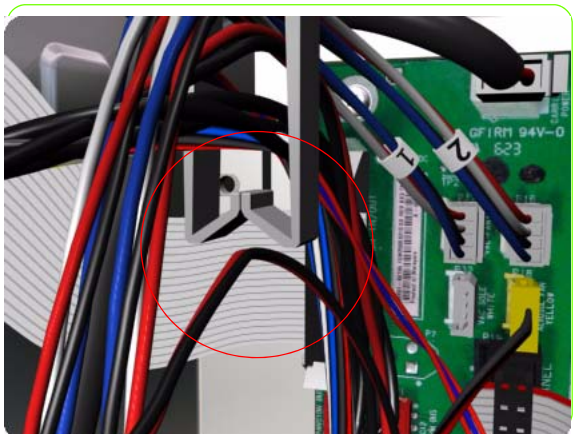
# Window Position Sensor

## Removal

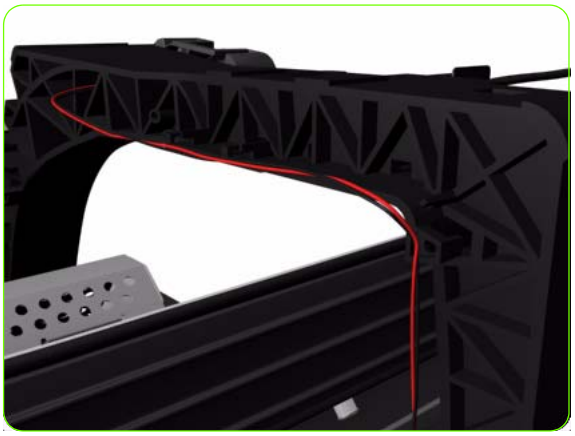
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Window:
   - For the 42-inch ⇒ See page 260.
   - For the 60-inch ⇒ See page 262.
2. Remove the Top Cover:
   - For the 42-inch ⇒ See page 273.
   - For the 60-inch ⇒ See page 277.
3. Remove the Right Cover ⇒ See page 264.
4. Remove the Right Connector Cover ⇒ See page 285.
5. Disconnect the Window Position Sensor cable from the Interconnect PCA.



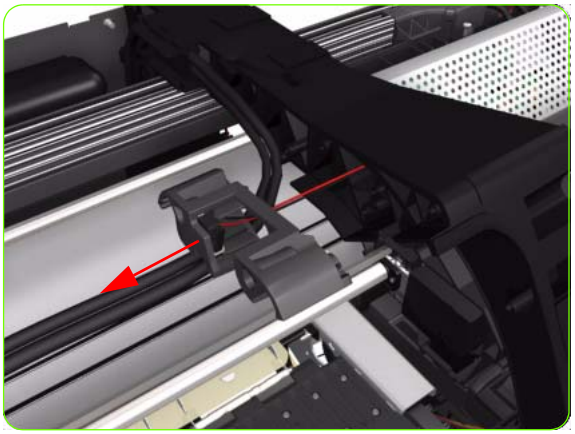


6. Unroute the Window Position Sensor cables from the from cable clamp.

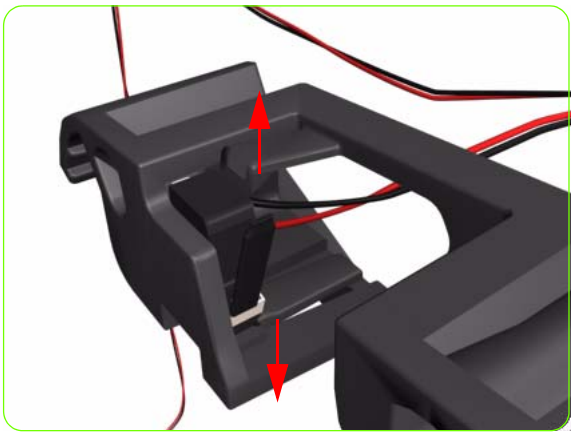


7. Unroute the Window Position Sensor cables from the Right Arc.

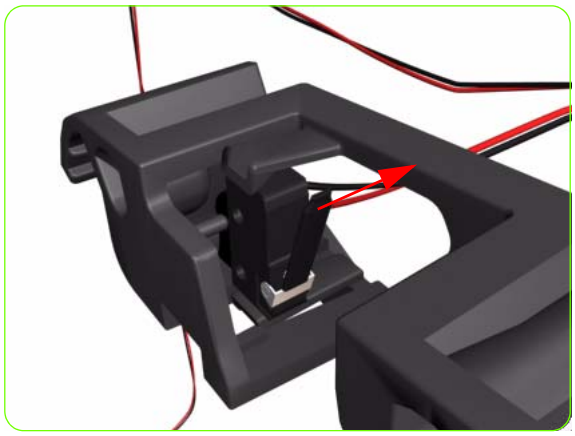
8. Remove three T-15 screws (**Type J**) that secure the Window Position Sensor Holder to the Right Arc.



9. Remove the Window Position Sensor Holder from the printer.



10. Release the two clips of the Window Position Sensor Holder.



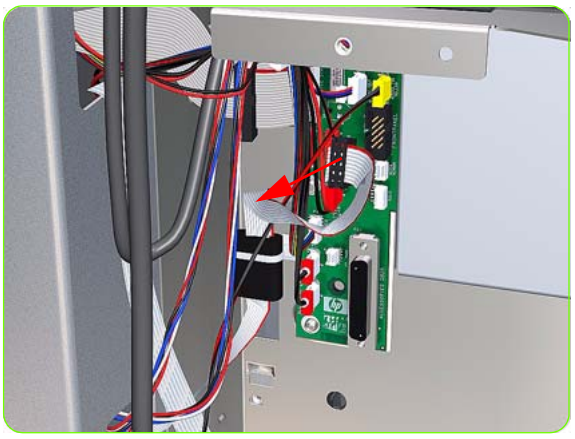
11. Remove the Window Position Sensor from the Holder.

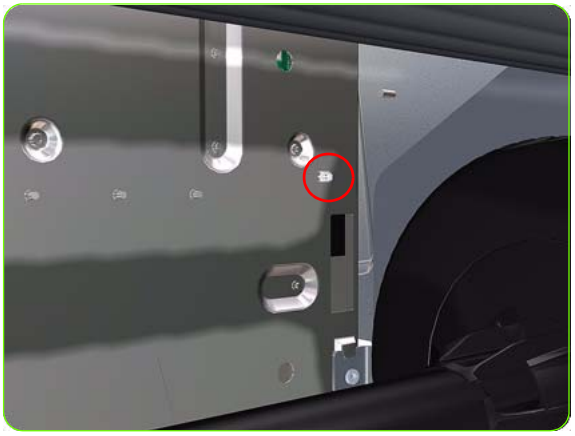
# Front Panel

## Removal

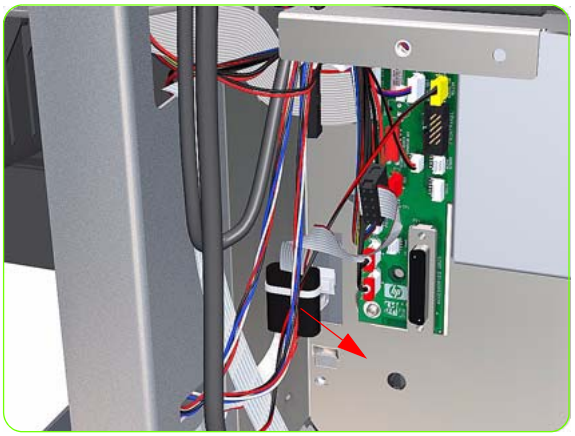
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Cover ⇒ See page 264.
2. Remove the Right Connector Cover ⇒ See page 285.
3. Disconnect the Front Panel Cable from the Interconnect PCA.

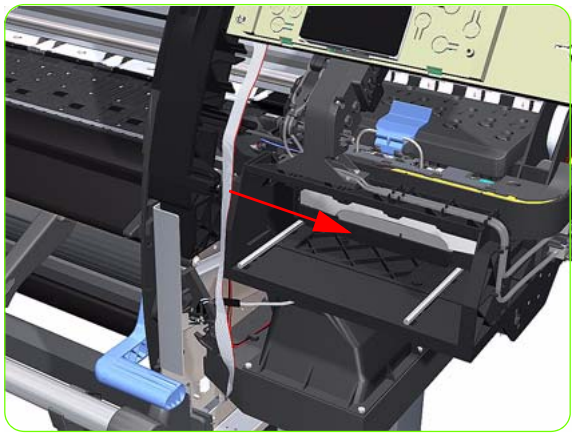




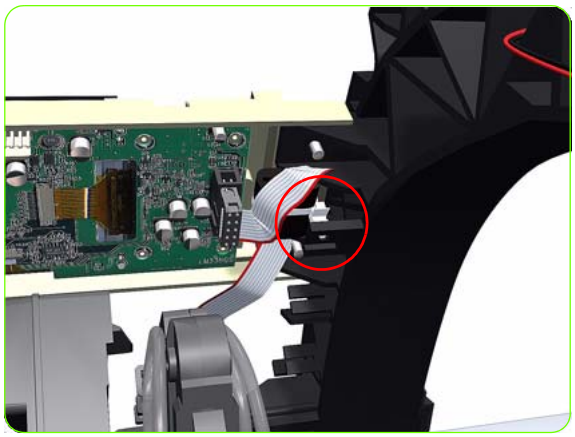
4. Disconnect the Ferrite clip (located on the rear of the Electronics Module) from the front of the Printer.



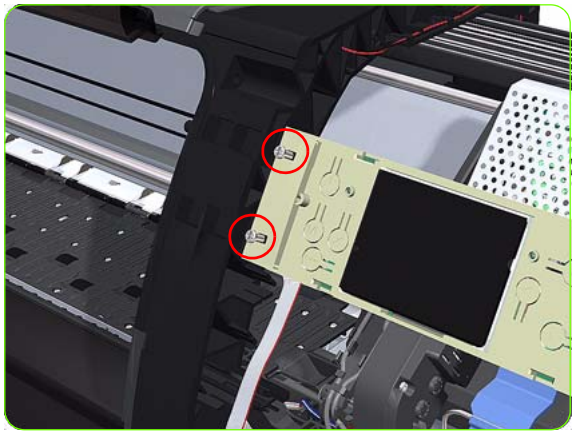
5. Move the Front Panel Cable (including the ferrite) out of the Electronics Module.



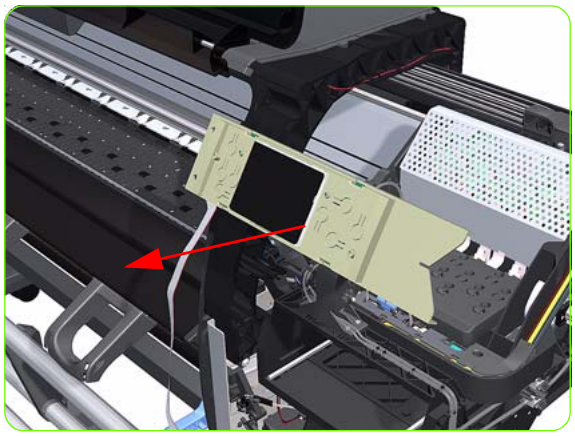
6. Release the Front Panel Cable from the Right Arc.



7. Disconnect the Ferrite clip from the Right Arc



8. Remove two T-15 screws (**Type G**) that secure the Front Panel to the Printer.



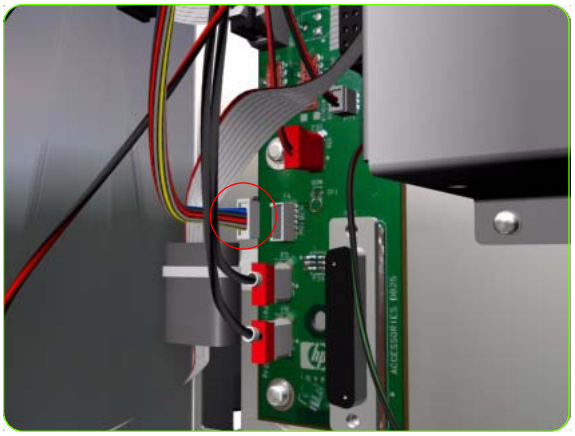
9. Remove the Front Panel from the Printer.

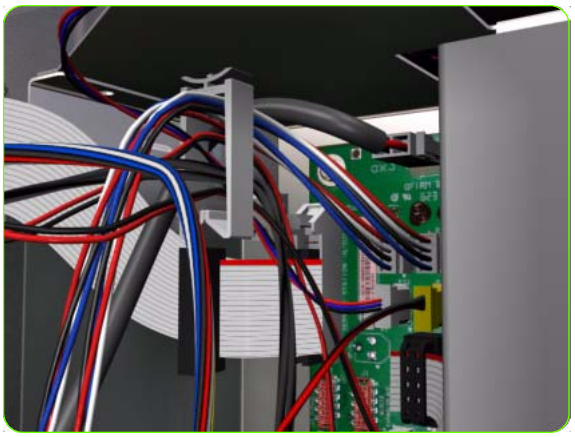
# Primer Assembly

## Removal

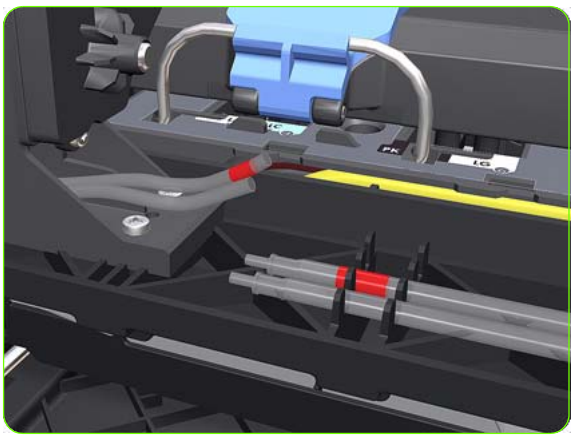
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Cover ⇒ See page 264.
2. Remove the Right Connector Cover ⇒ See page 285.
3. Remove the Front Panel ⇒ See page 292.
4. Disconnect Primer Assembly cable from the from Interconnect PCA.

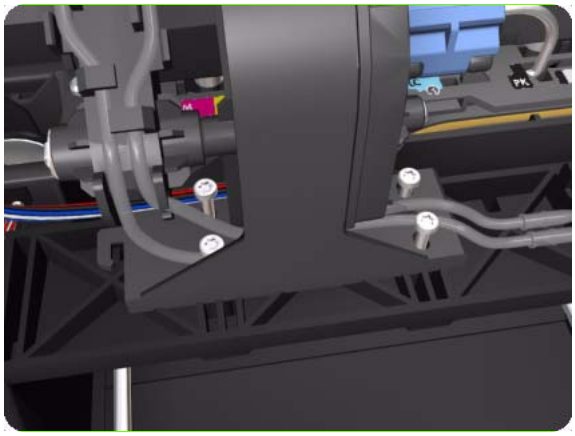




5. Unroute the Primer Assembly cable from the from cable clamp.

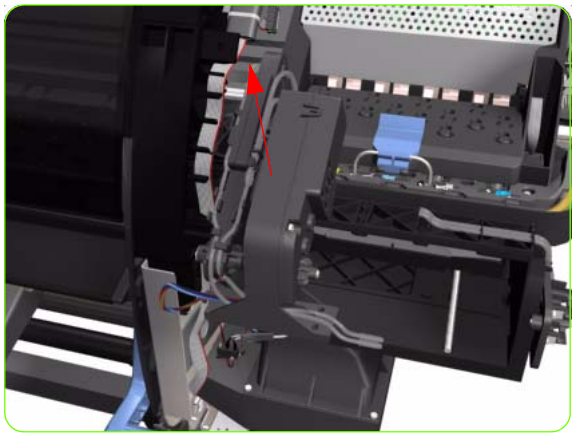


6. Disconnect the two Primer Assembly tubes.



7. Remove four T-10 screws that secure the Primer Assembly to the Service Station.

**NOTE:** Use a short screw driver, less than 10 cm in length.



8. Remove the Primer Assembly from the Service Station.

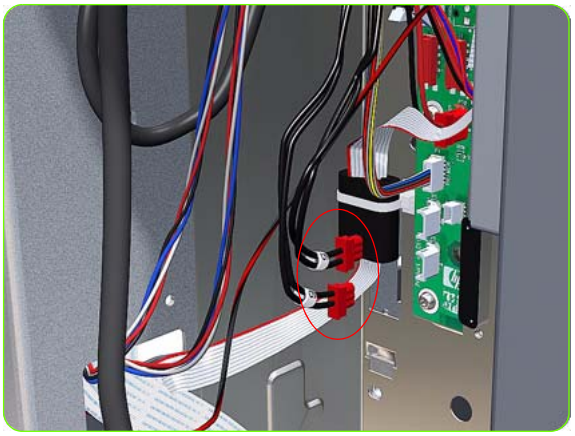
**NOTE:** When installing the Primer Assembly, use the identification marks on the Primer Assembly Tubes to ensure they are correctly connected.

# Primer Valves

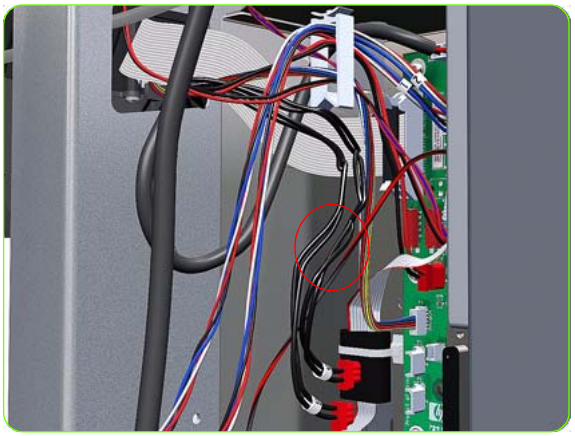
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

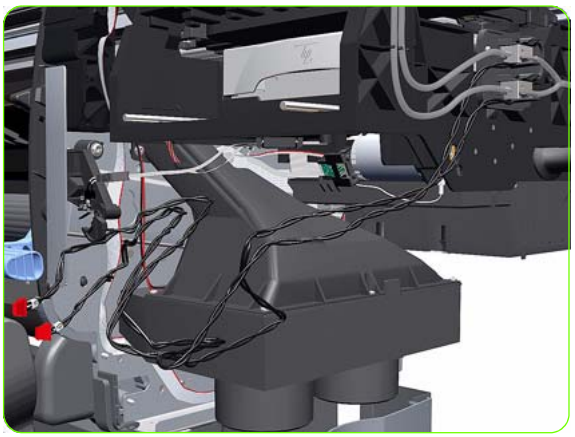
1. Remove the Right Cover ⇒ See page 264.
2. Remove the Right Connector Cover ⇒ See page 285.
3. Remove the Front Panel ⇒ See page 292.
4. Disconnect both Primer Valves from the from Interconnect PCA.



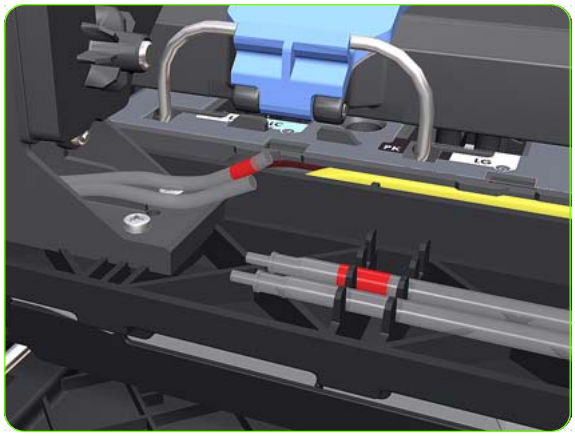
**NOTE:** The upper connection is identified as number 5 and the lower connection as number 6. These identification numbers correspond to the actual Primer Valves identification.



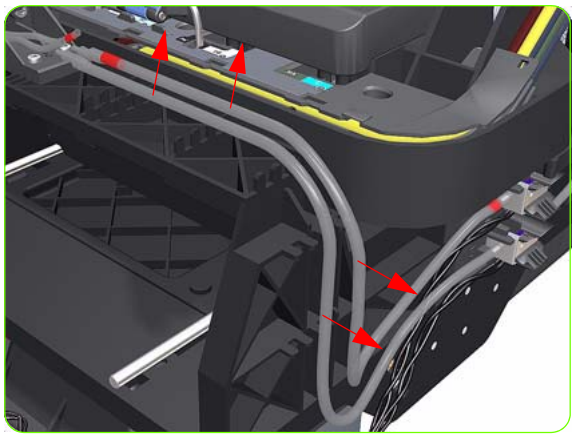
5. Unroute the Primer Valves cables from the from cable clamp.



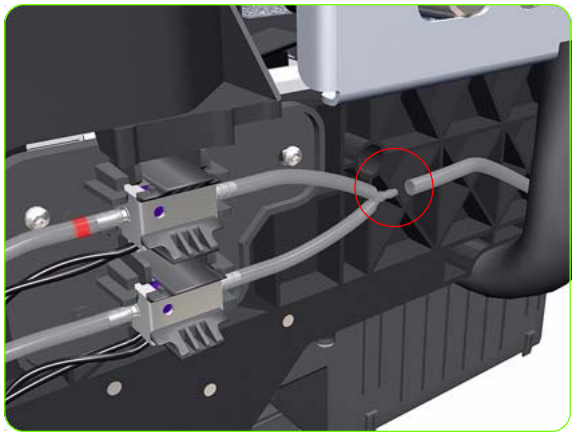
6. Completely unroute the Primer Valves cables from the Service Station.



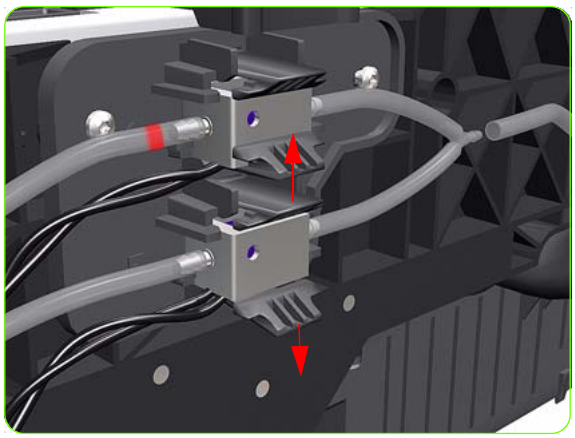
7. Disconnect the two Primer Assembly Tubes.



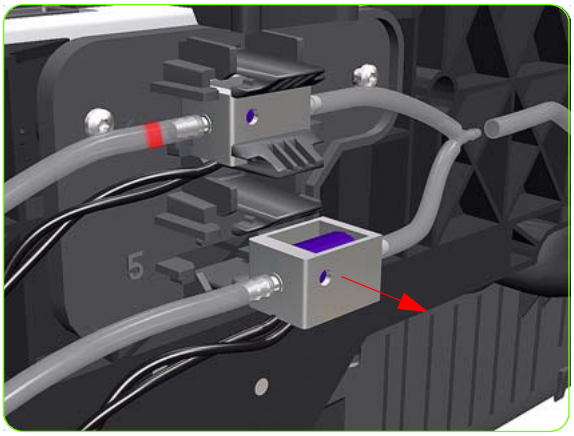
8. Unclip the Primer Valve Tubes from the Service Station.



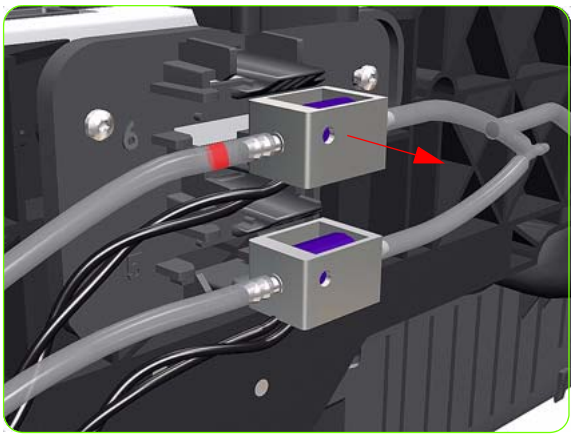
9. Disconnect the Primer Valve Tubes at the Y-Piece.



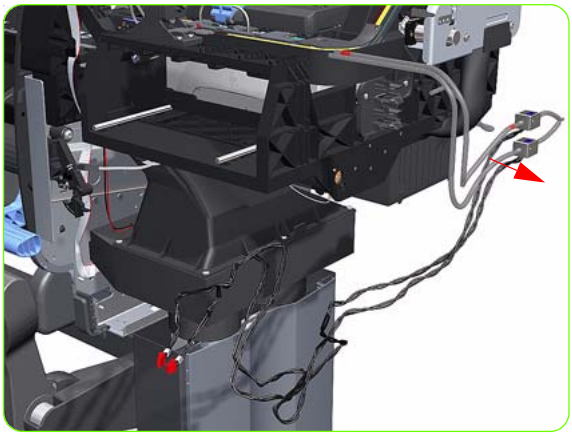
10. Unclip the lower Primer Valve.




11. Remove the lower Primer Valve (identified as 5).

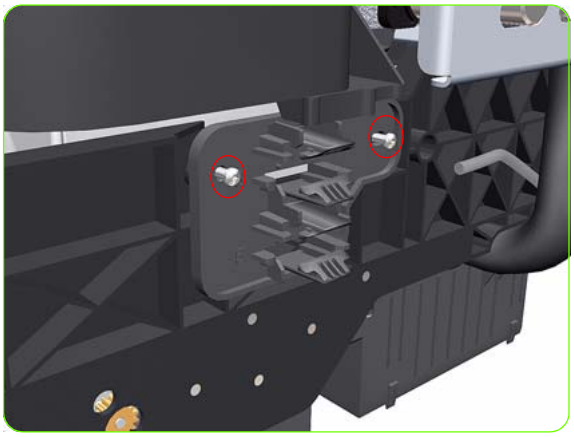



12. Unclip and remove the upper Primer Valve (identified as 6 and with an identification mark on the tube).

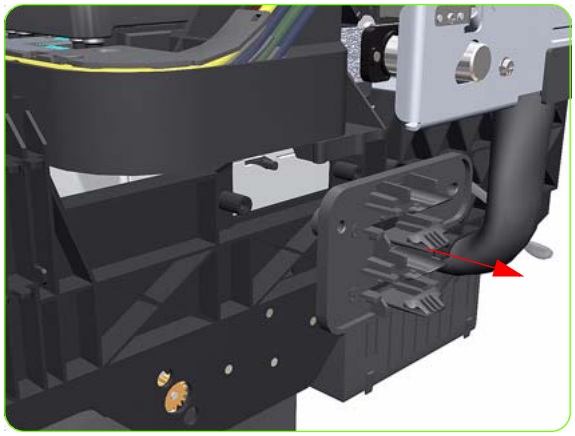


13. Remove the Primer Valves from the Printer.

**NOTE:** When installing the Primer Valves, use the identification marks on the Primer Assembly Tubes and the identification numbers to ensure they are correctly connected.



14. Remove two T-15 screws that secure the Primer Valves Mounting Plate from the printer.



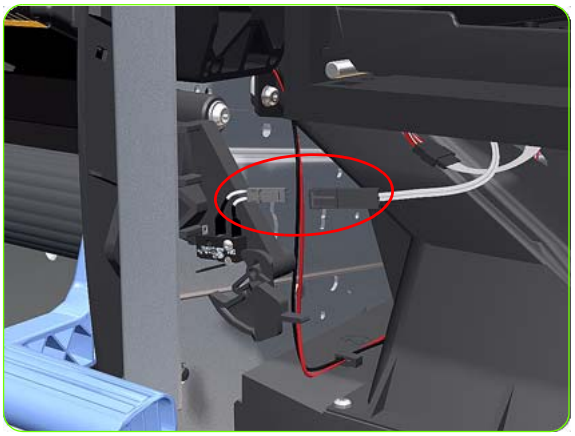
15. Remove Primer Valves Mounting Plate from the printer.

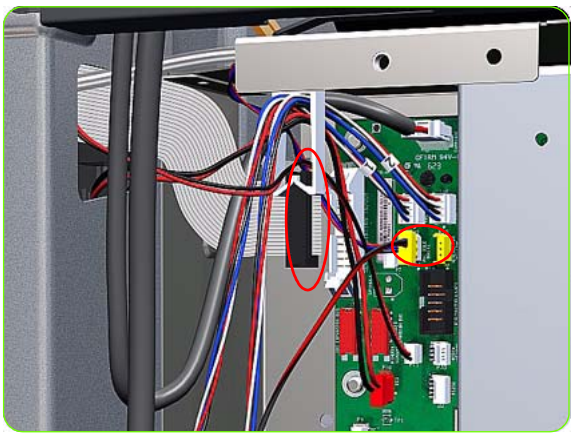
# Service Station

## Removal

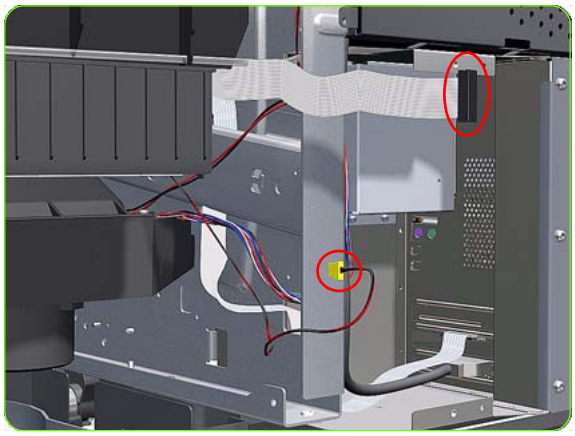
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Cover ⇒ See page 264.
2. Primer Assembly ⇒ See page 294.
3. Primer Valves ⇒ See page 296.
4. Remove the Drop Detector ⇒ See page 309.
5. Remove the Right Connector Cover ⇒ See page 281.
6. Remove the Maintenance Cartridge ⇒ See the User's Guide.
7. Disconnect the cable from the Maintenance Cartridge Door Switch.

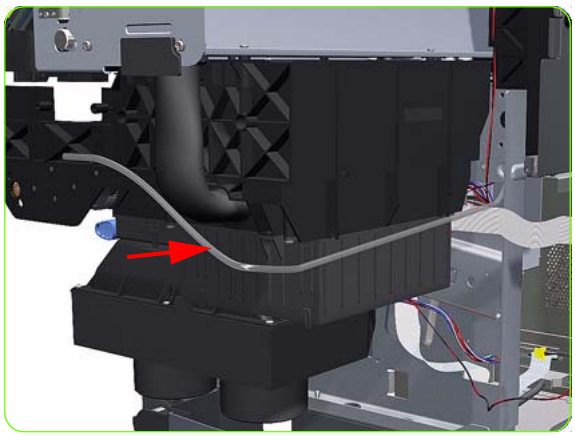




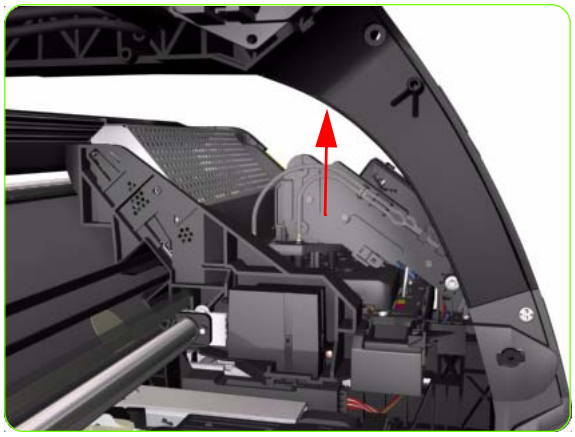
8. Disconnect the Service Station and Aerosol Fan Cables from the Interconnect PCA.



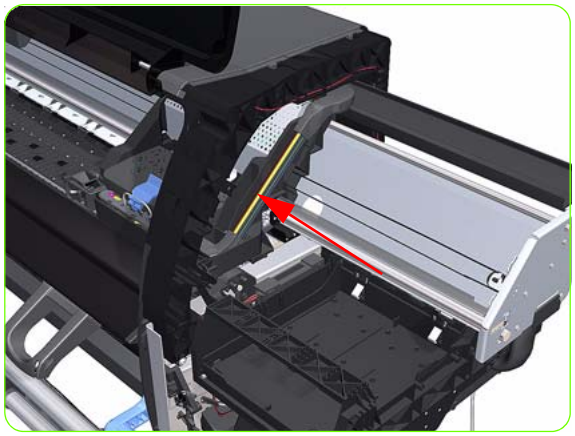
9. Unroute the Service Station and Aerosol Fan Cables.



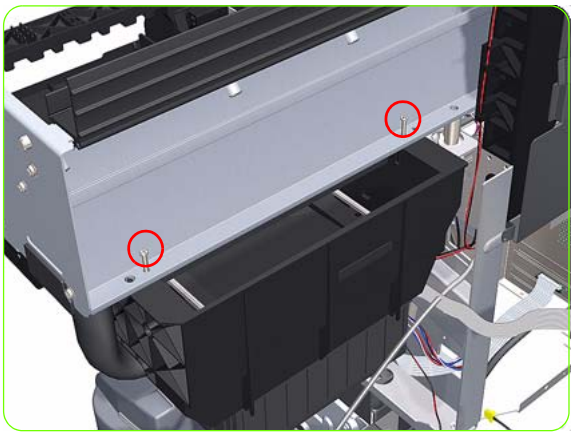
10. Unroute the Primer Assembly Valves tube from the Service Station.



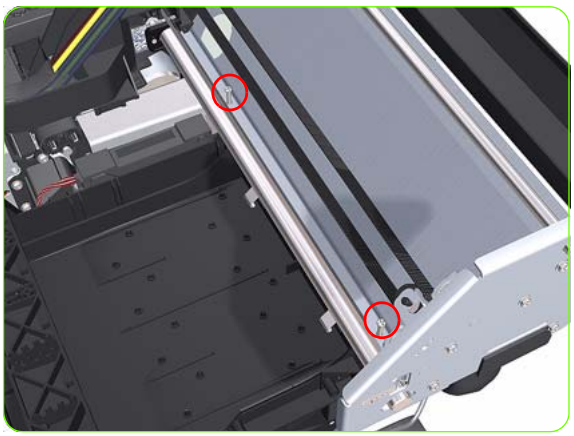
11. Lift the Primer and hold the Primer to its maximum position to avoid damaging it when you move the Carriage Assembly in the next step.



12. Move the Carriage Assembly out of the Service Station.

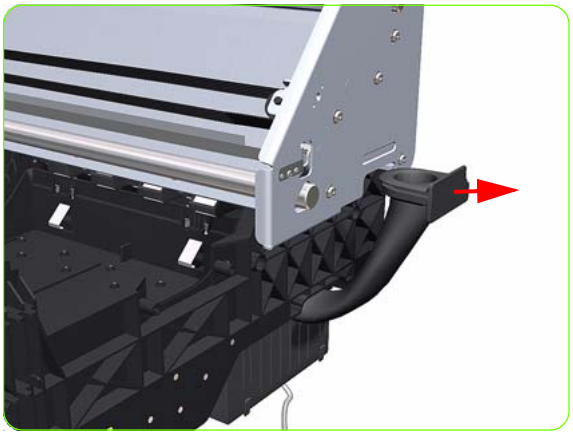


13. Remove two T-15 screws (**Type J**) that secure the rear of the Service Station to the Chassis.

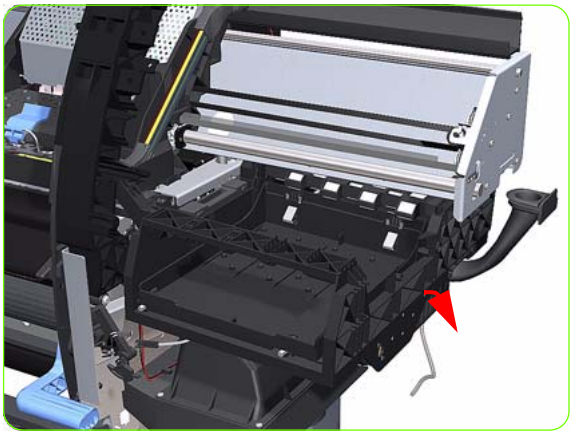


14. Remove four T-15 screws (**Type J**) that secure the Service Station to the Chassis.

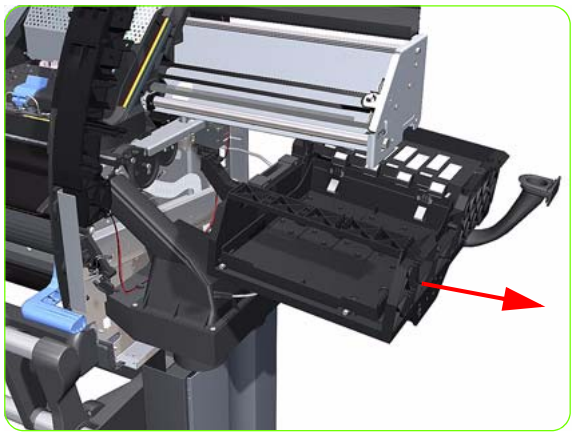
> △ **CAUTION:** When removing the screws, please be very careful NOT to damage the Encoder Strip.



15. Disconnect the Aerosol Fan Tube from the Chassis.



16. Lower the right side of the Service Station.



17. Remove the Service Station from the Printer.

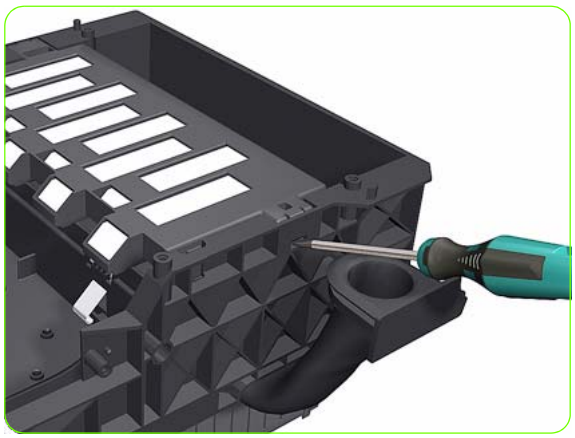
**NOTE:** After installing the NEW Service Station, make sure you perform the following Service Utility:

- Reset Counter PHC spittoon ⇒ Chapter 4.

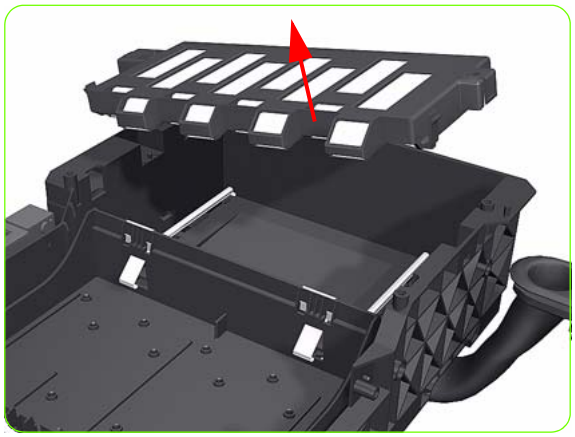
**NOTE:** After installing the NEW Service Station, make sure you perform the following Service Calibration:

- Service Station Calibration ⇒ Chapter 5.

## Removal of the Service Station Scraper



1. Release the clip securing the Scraper to the Service Station.



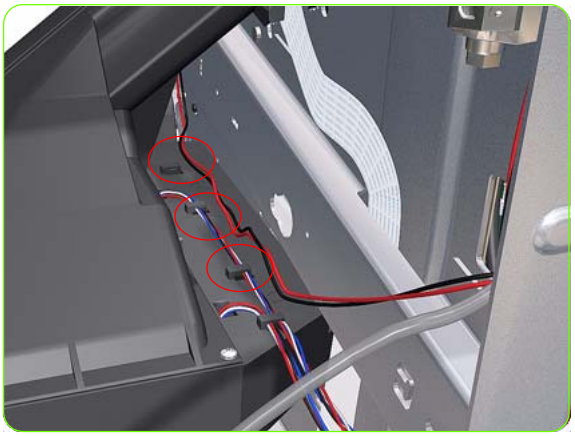
2. Remove the Scraper from the Service Station.

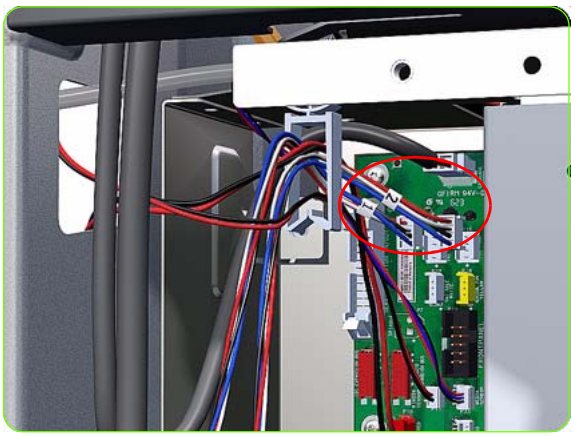
# Vacuum Fan

## Removal

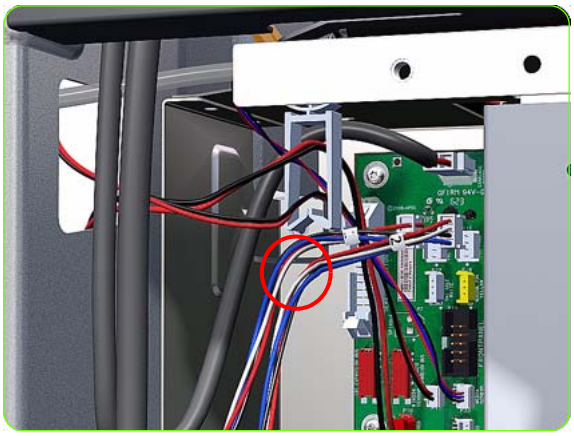
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Cover ⇒ See page 264.
2. Remove the Right Connector Cover ⇒ See page 285.
3. Remove the Primer Assembly ⇒ See page 294.
4. Remove the Primer Valves ⇒ See page 296.
5. Remove the Maintenance Cartridge ⇒ See the User's Guide.
6. Remove the Service Station ⇒ See page 300.
7. Release the Pinchwheel Lever Sensor Cable from the Vacuum Fan.

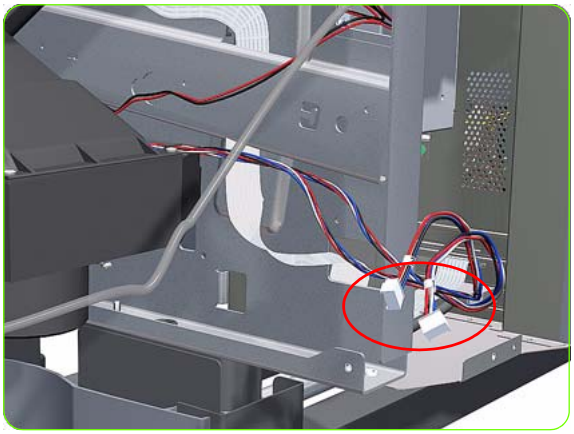




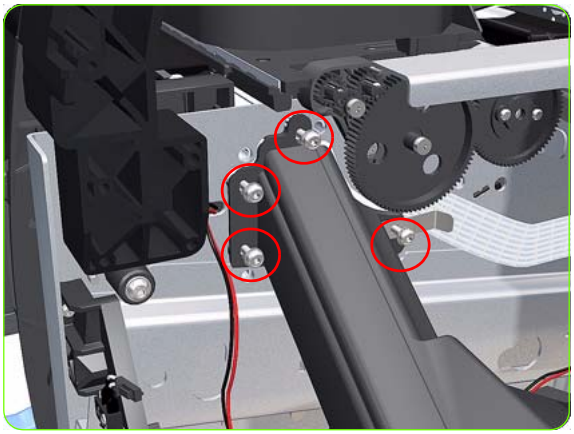
8. Disconnect both Vacuum Fan cables (identified 1 and 2) from the Interconnect PCA.



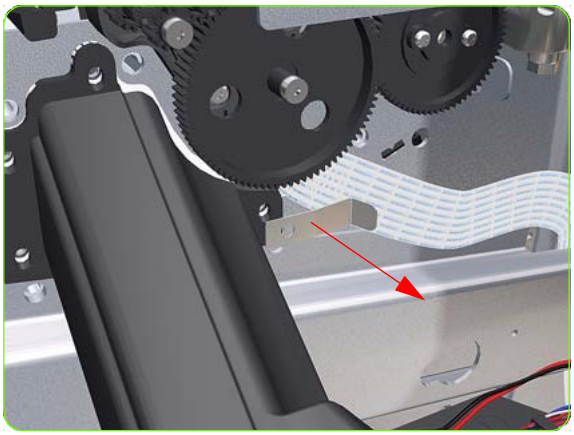
9. Unclip the cables from the cable clamp.



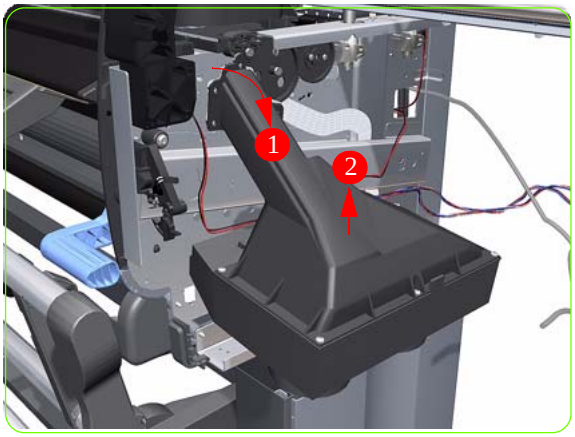
10. Unroute both Vacuum Fan cables from the Interconnect PCA.



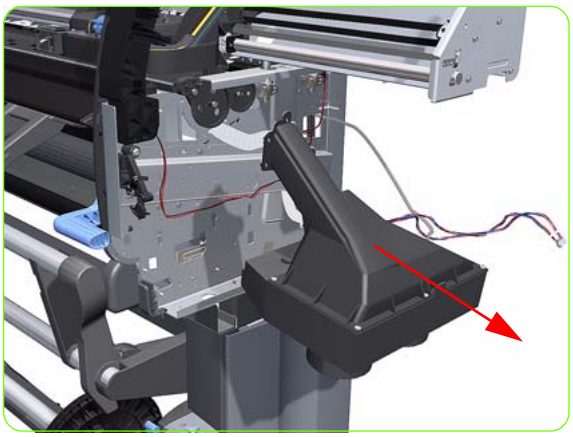
11. Remove four T-20 screws (**Type B**) that secure the Vacuum Fan to the Printer.



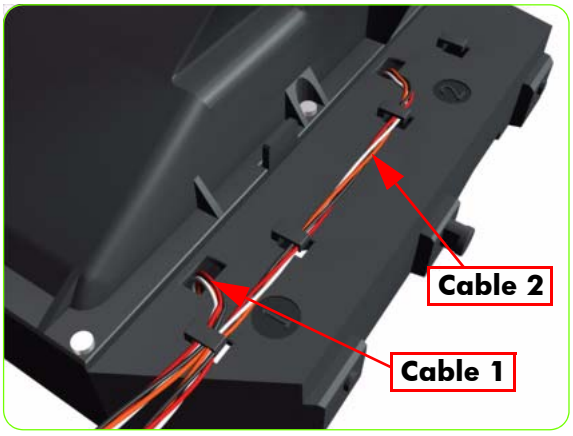
12. Remove the OMAS cable clamp from the printer.




13. Lower then lift the Vacuum Fan out of its attachment.



14. Remove the Vacuum Fan from the Printer.




**NOTE:** When connecting the Vacuum Fan cables to the Interconnect PCA, make sure you connect the cable with the label marked Vacuum Fan 1 to connector 1 and the cable with the label marked Vacuum Fan 2 to connector 2. You can verify if both cables are labelled correctly by the actual markings on the Vacuum Fan.

**NOTE:** Make sure that the OMAS ribbon cable is free of slack when you install the cable clamp.

**NOTE:** After installing the NEW Vacuum Fan, make sure you perform the following Service Calibration:

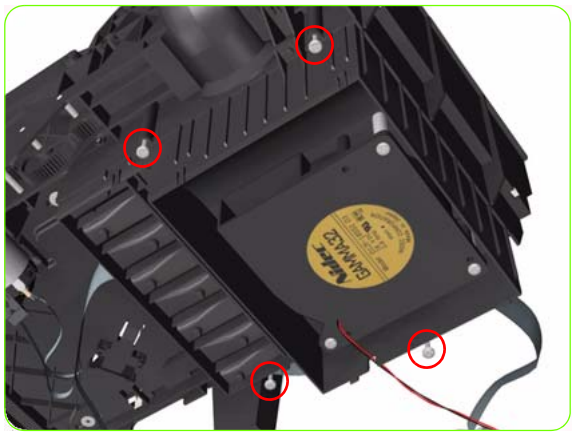
- Paper Advance Calibration ⇒ Chapter 5.

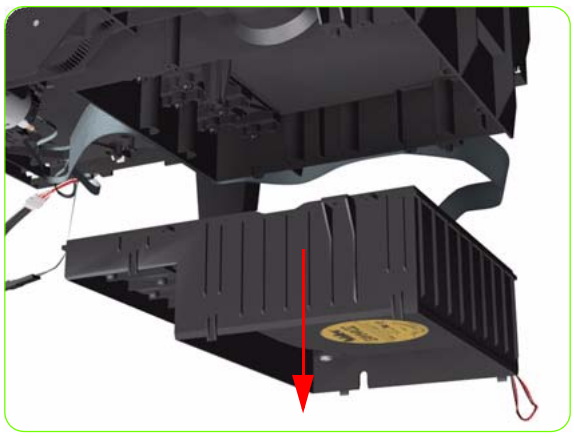
# Aerosol Fan and Filter

## Removal

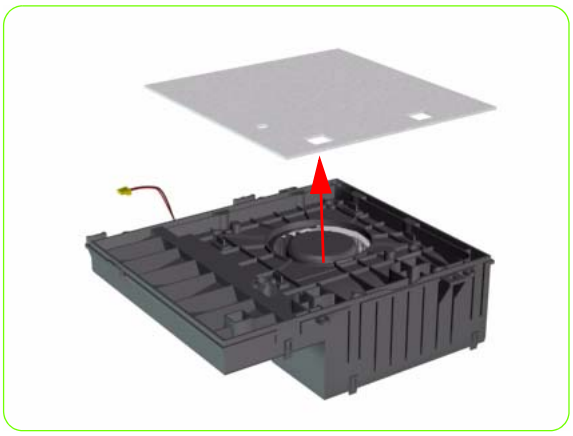
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Cover ⇒ See page 264.
2. Remove the Rear Door:
   - For the 42-inch model ⇒ See page 281.
   - For the 60-inch model ⇒ See page 283.
3. Remove the Right Connector Cover ⇒ See page 281.
4. Remove the Service Station ⇒ See page 300
5. Remove four T-15 screws (**Type G**) that secure the Aerosol Fan to the Service Station.





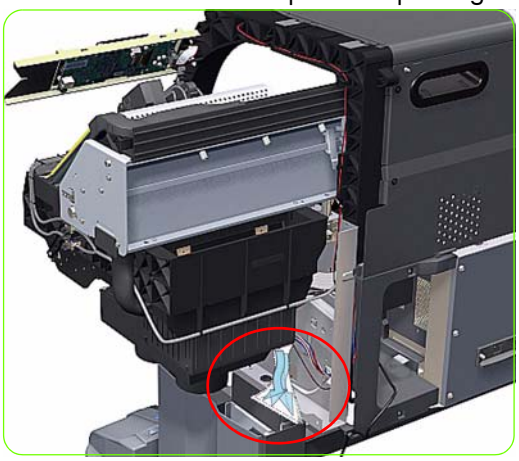
6. Remove the Aerosol Fan from the Service Station.



7. If necessary, remove the Aerosol Fan Filter from the Aerosol Fan.

## Installing

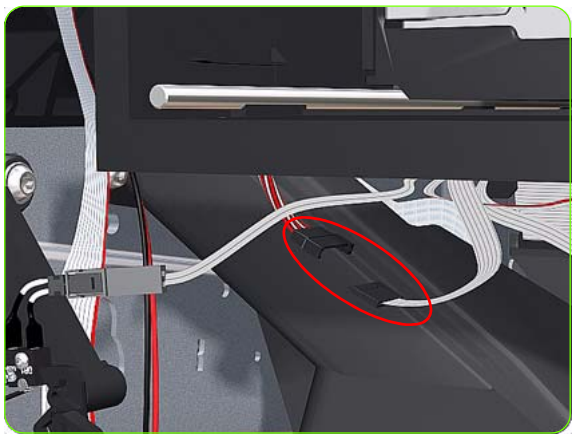
When the new aresol Fan and Filter have been installed, it is important to check that the fan is funcioning correctly, otherwise the printer will suffer from Aerosol spray. To check that the fan is working correctly, make sure the printer is printing and check for airflow in the area of the rear of the Service Station.



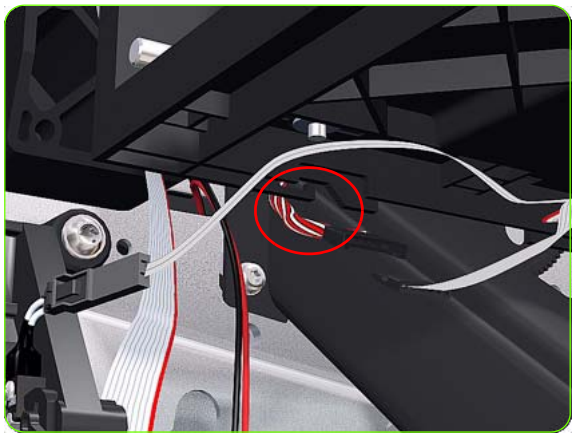
# Drop Detector

## Removal

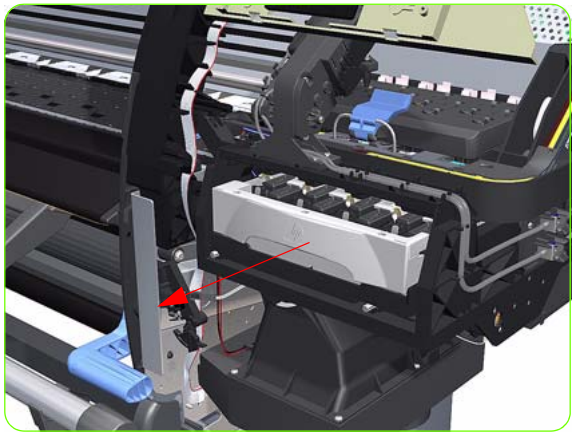
**WARNING!:** Switch off the printer and remove the power cable.



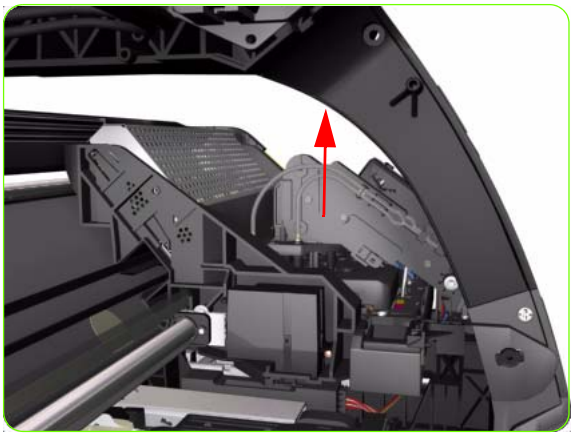
1. Remove the Right Cover ⇒ See page 264.
2. Disconnect the Drop Detector Cable from the Service Station Cable.



3. Release the Drop Detector Cable from the Service Station.

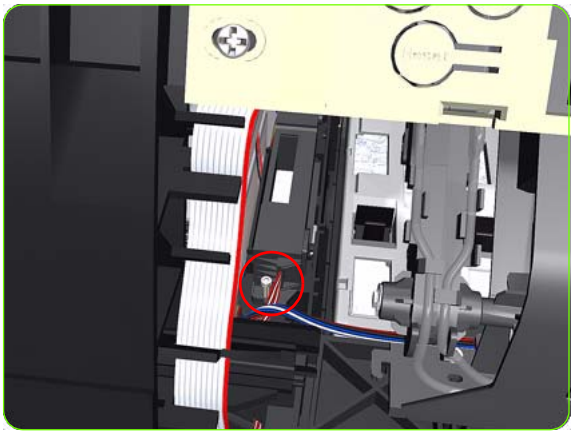


4. Pull out the Maintenance Cartridge fully from the Service Station to release the Carriage Assembly.

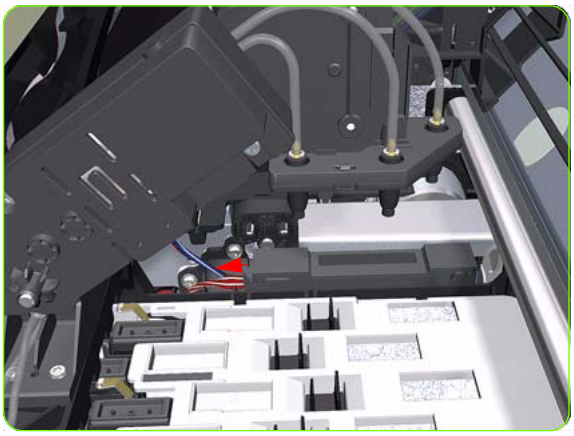


5. Lift the Primer and hold the Primer to its maximum position to avoid damaging it when you move the Carriage Assembly in the next step.

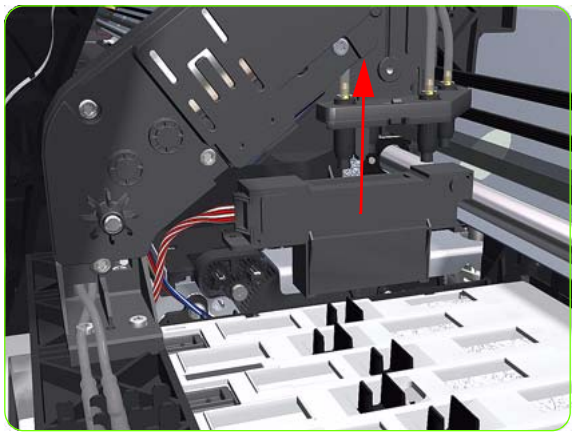
6. Slide the Carriage Assembly into the print path so you access the Drop Detector.



7. Remove one T-8 screw (**Type K**) that secures the Drop Detector to the Service Station.



8. Slide the Drop Detector forward so you can release it from the Service Station.



9. Remove the Drop Detector from the Printer.

**NOTE:** After installing the NEW Drop Detector, make sure you perform the following Service Calibration:

- Drop Detector Calibration ⇒ Chapter 5.

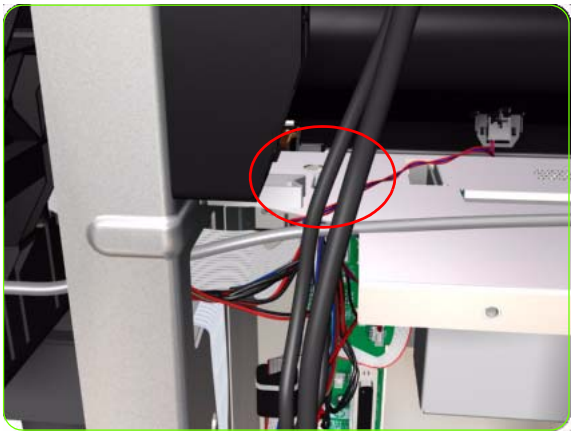
# Ink Supply Tubes and Trailing Cable

## Removal

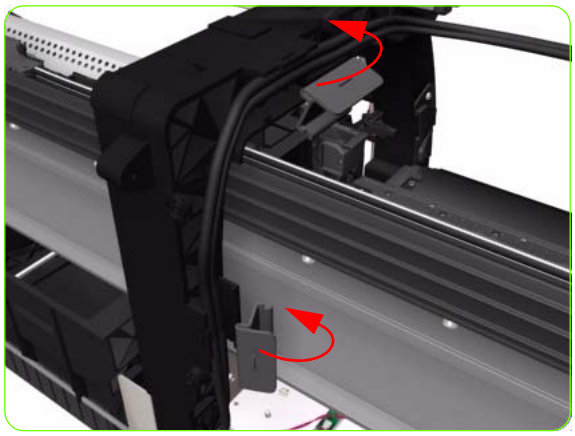
**WARNING!:** Switch off the printer and remove the power cable.

**CAUTION:** You MUST NEVER replace both the Hard Disk Drive and the Ink Supply Tubes and Trailing Cable at the same time. If both parts need to replaced, you MUST first replace one part and then power ON the Printer until it completely initializes. Then you can power OFF the Printer and replace the other part.

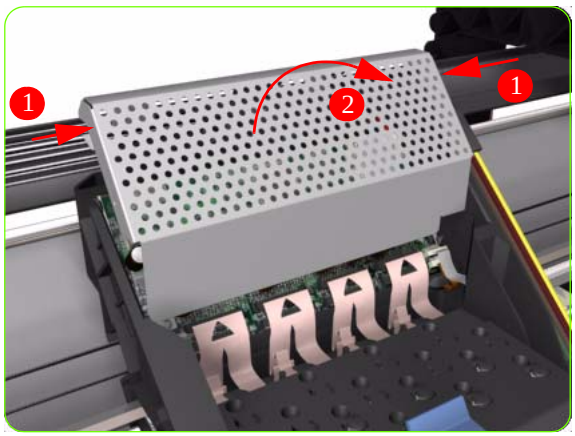
1. Remove the Right Cover ⇒ See page 264.
2. Remove the Left Cover ⇒ See page 270.
3. Remove the Top Cover ⇒ See page 277.
4. Remove the Rear Door ⇒ See page 283.
5. Remove the Right Connector Cover⇒ See page 285.
6. Disconnect the Trailing Cable from the Interconnect PCA and the Sausalito PCI.



7. Release the Trailing Cable from the cable clamp.

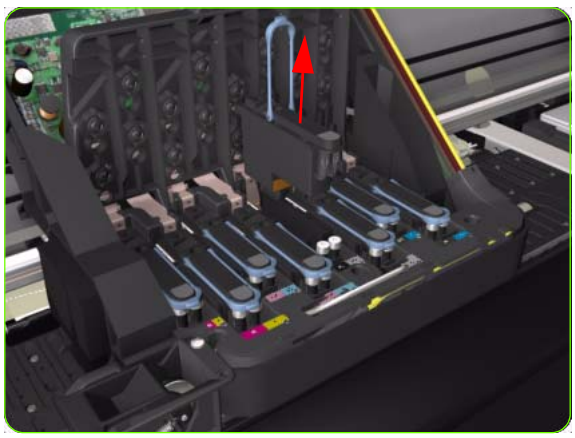


8. Release the two plastic clips securing the Trailing Cable to the Right Arc.

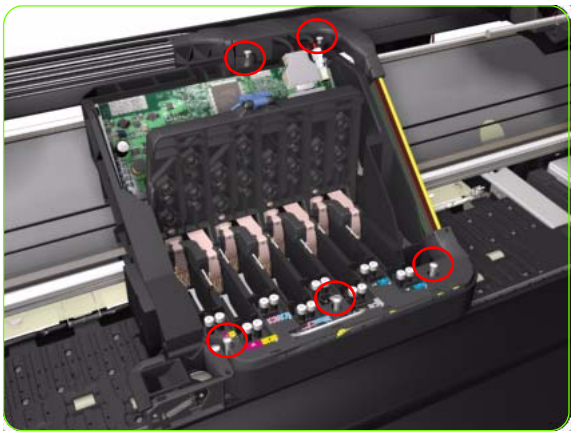



9. Press the two side of the Carriage PCA Cover and unclip from the Carriage Assembly.

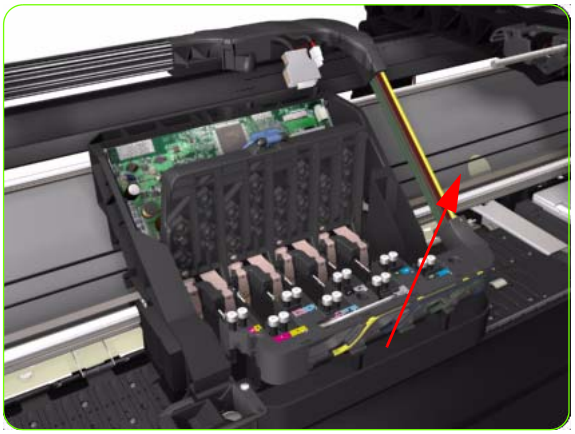
10. Disconnect the Trailing Cable from the Carriage PCA.



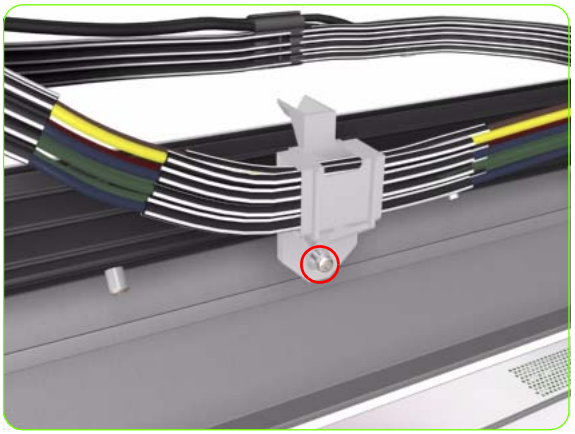
11. Open the Carriage Cover and remove ALL the Printheads from the Carriage Assembly.



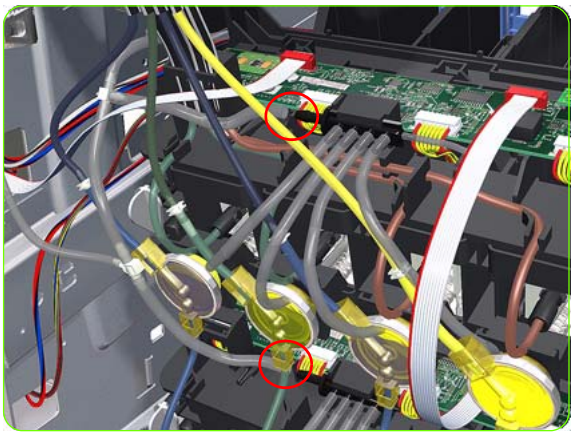
12. Remove five T-15 screws (**Type G**) that secure the Ink Supply Tubes to the Carriage Assembly.



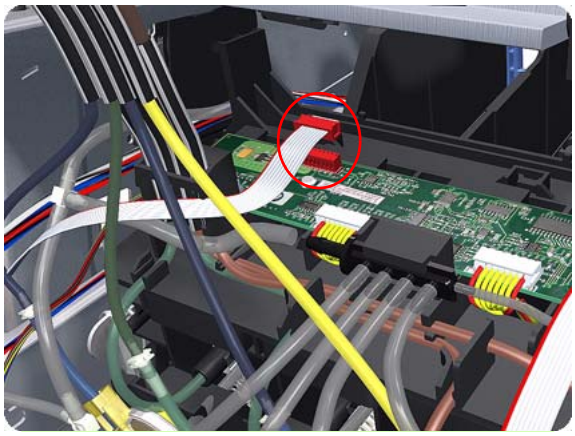
13. Remove the Ink Supply Tubes from the Carriage Assembly and safely place to one side of the Printer.



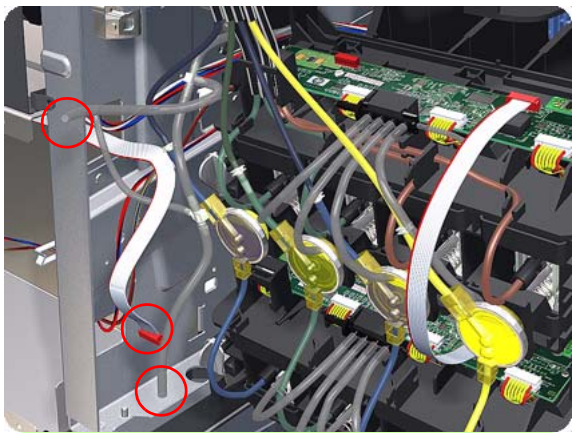
14. Remove one T-20 screw (**Type B**) from each plastic holder at the rear of the Printer.
15. Remove one T-15 screw that attaches the bonding cable to the printer chassis.



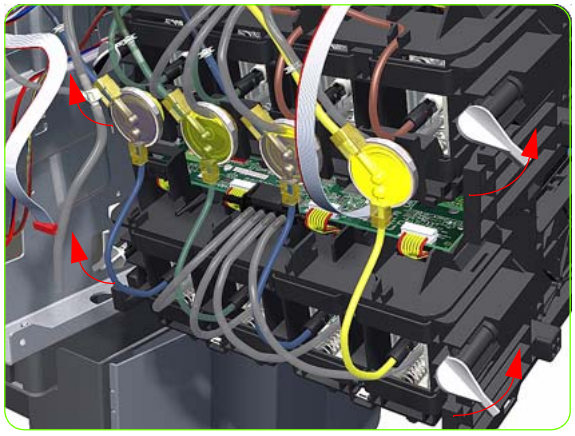
16. Disconnect the Air Tubes from the Ink Cartridge Tube Connector.



17. Disconnect the Electrical Cable from the rear of the Ink Cartridge Tube Connector.

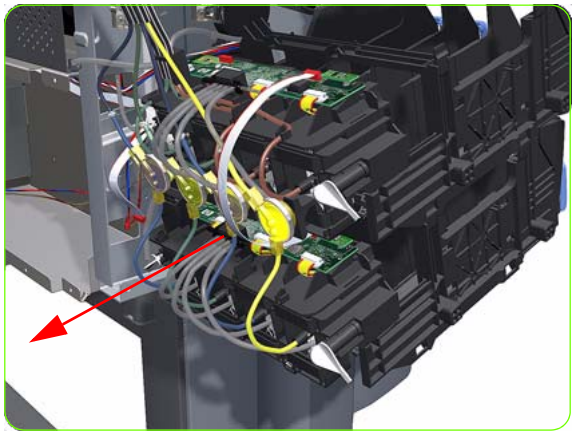


18. Unroute the Electrical Cable and Air Tubes from the rear of the Ink Cartridge Tube Connector.

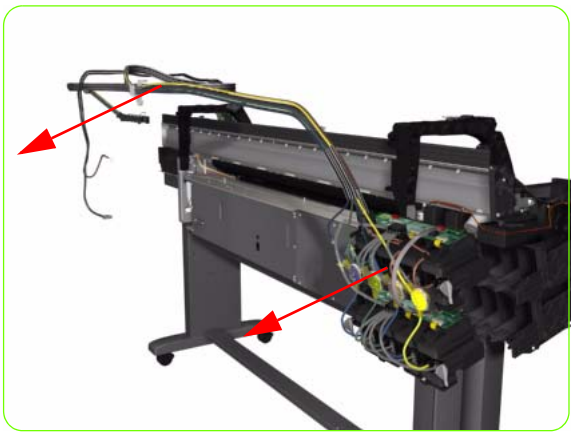


19. Twist the four latches at the rear of the Ink Cartridge Tube Connector and release the complete assembly.

**NOTE:** Be careful not to damage the inter-connecting cable.

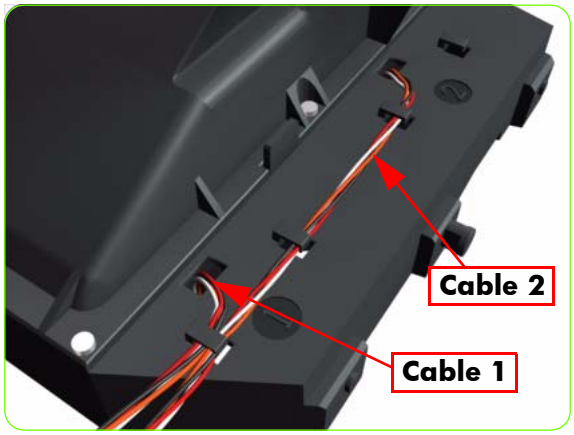


20. Carefully slide the Ink Cartridge Tube Connector off the Ink Supply Station.



21. Remove the Ink Supply Tubes and Trailing Cable from the Printer.

# Installation of the Ink Supply Tubes and Trailing Cable




**NOTE:** After installing the NEW Ink Supply Tubes and Trailing Cable, make sure you perform the following Service Utility:

- Reset life counter scan cycles tubes/cable ⇒ Chapter 4.
-

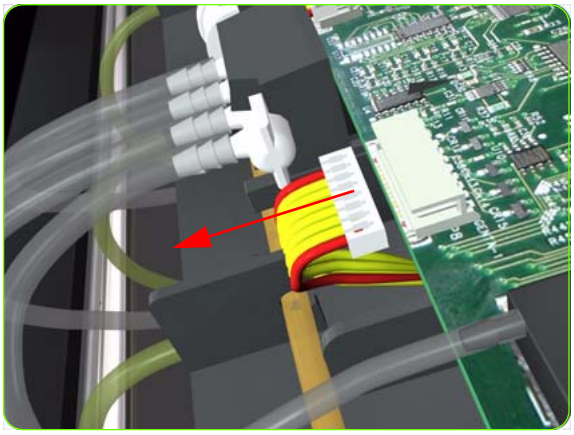
**NOTE:** When installing the Ink Supply Tubes and Trailing Cable on to the Top Cover, take note of the of the two red marks on the Ink Supply Tubes. These two red marks should be aligned with the first slot in the Top Cover as this will help with the rest of the installation.

# ISS to Cartridge Cables

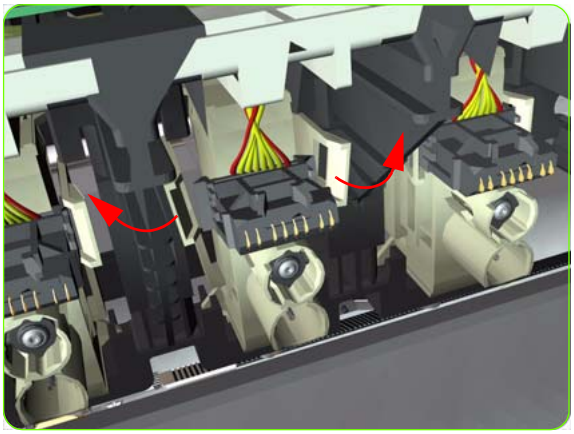
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

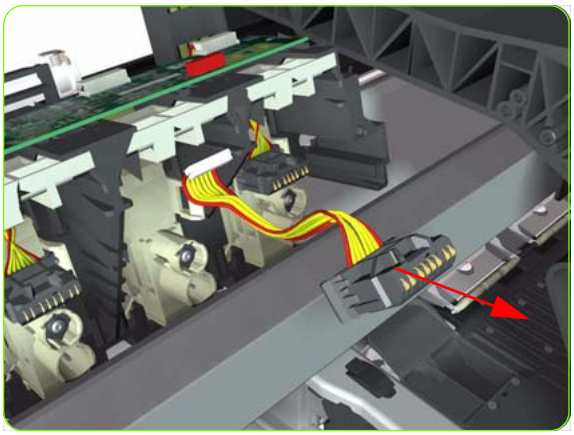
1. Remove the Left Cover ⇒ See page 270.
2. Disconnect the ISS to Cartridge Cable from the ISS PCA.



3. Release the clips securing the ISS to Cartridge Cable.



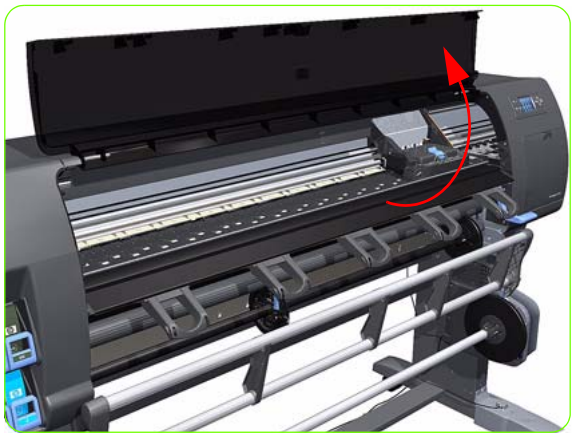
4. Remove the ISS to Cartridge Cable from the Printer.



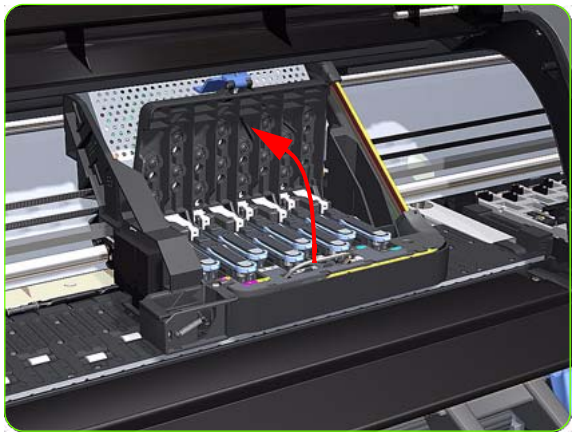
# Cutter Assembly

## Removal

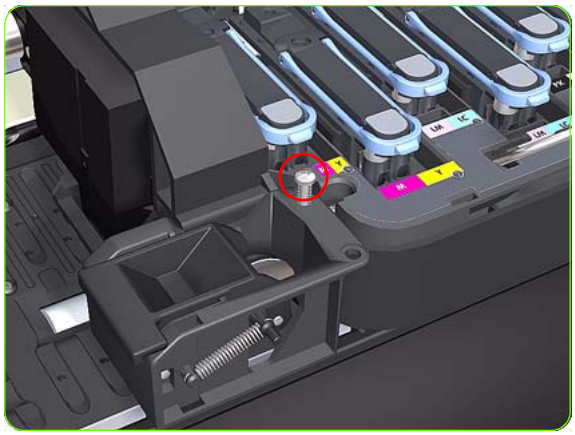
1. Select “Replace Cutter” from Service Menu (refer to Chapter 4) and follow the instructions on the Front Panel.
2. Open the Window.

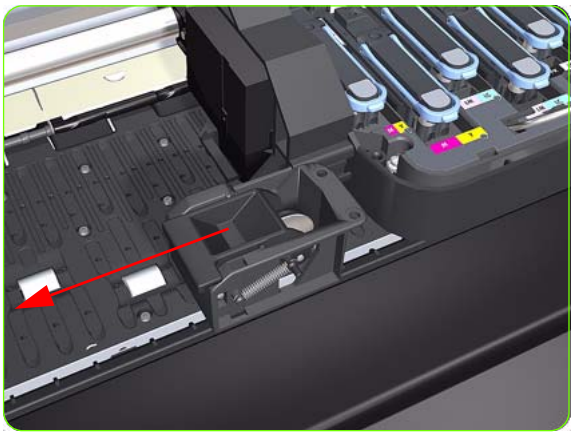


3. Open the Carriage Cover.



4. Remove one T-15 screw (**Type G**) that secures the Cutter Assembly to the Carriage Assembly.





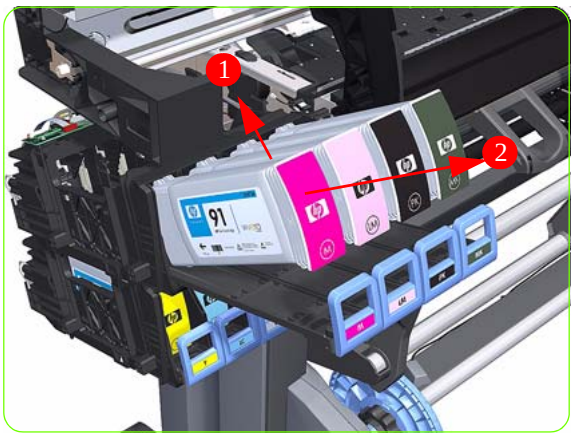
5. Slide the Cutter Assembly to the left and remove from the Printer.

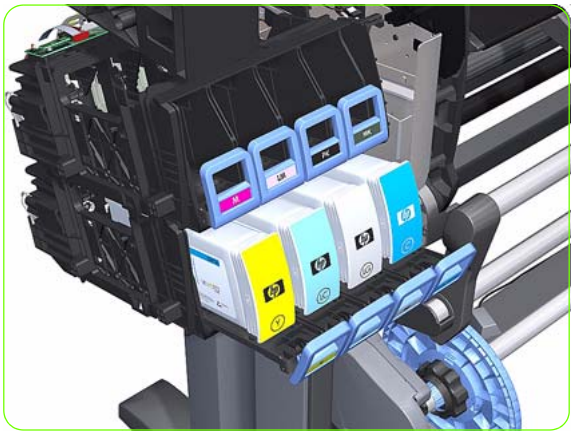
# Ink Supply Station (ISS)

## Removal

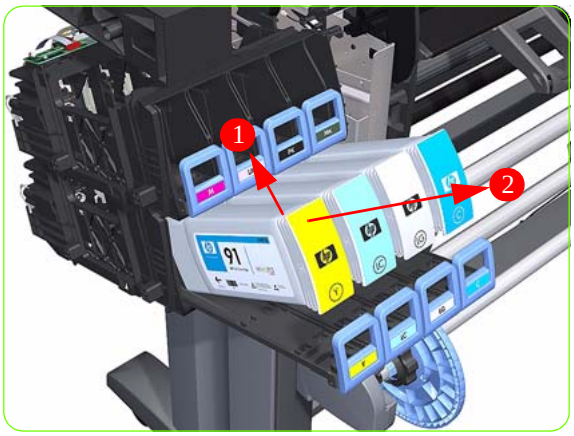
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Left Cover ⇒ See page 270.
2. Remove the Scan-Axis Motor ⇒ See page 346.
3. Remove the Left Spittoon ⇒ See page 328.
4. Pull out the top row of Cartridge Trays and remove the Ink Cartridges.

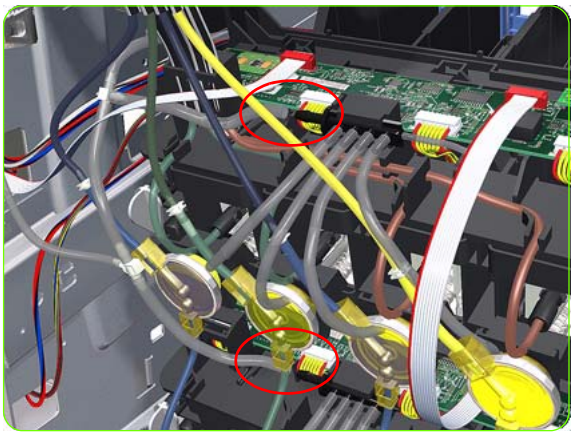


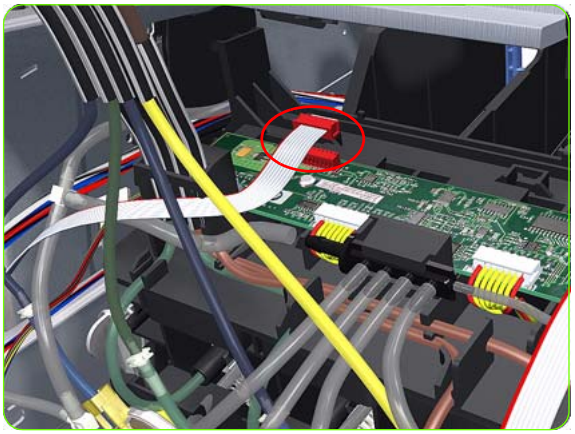
5. Close the top row of Cartridge Trays and pull out the bottom row.



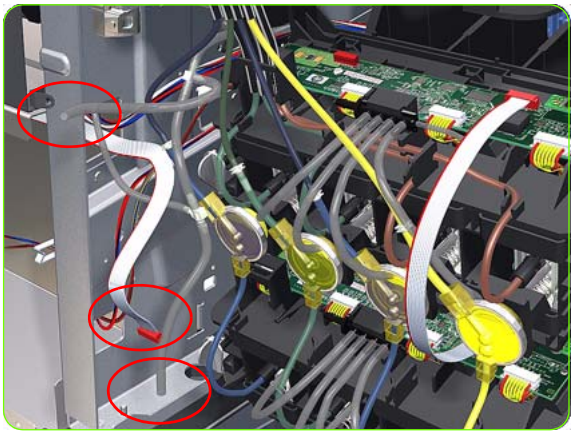

6. Pull out the bottom row of Cartridge Trays and remove the Ink Cartridges.



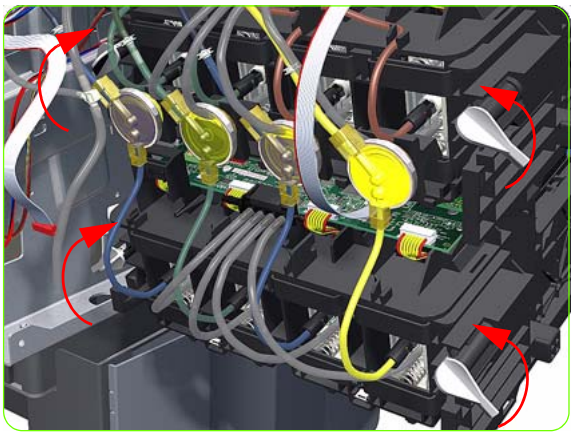
7. Disconnect the top and bottom Air Tubes from the Ink Supply Tubes.



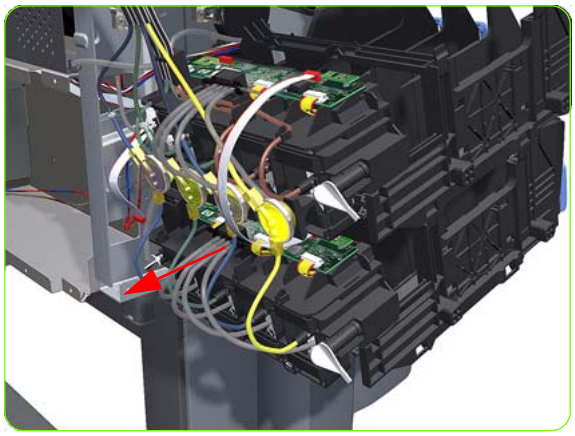
8. Disconnect the Electrical Cable from the rear of the Ink Cartridge Tube Connector.



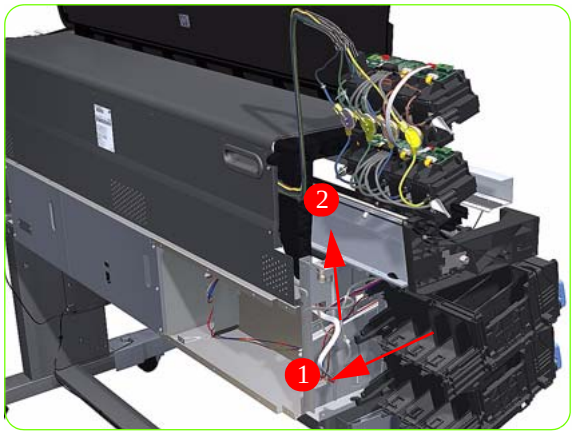
9. Unroute the Air Tubes and Electrical Connector.



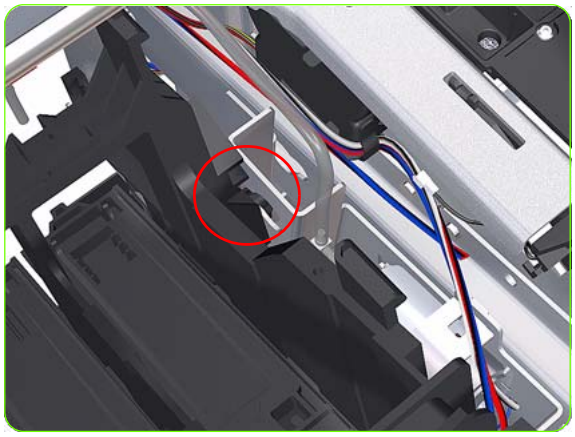
10. Twist the four latches at the rear of the lower Ink Cartridge Tube Connector and release the complete assembly.



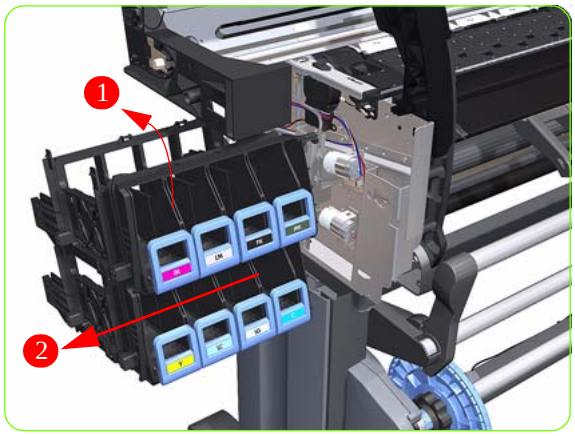
11. Lift the Cartridge Tube Connector off the Ink Supply Station.




12. Remove the Cartridge Tube Connector from the Ink Supply Station.



13. Unhook Ink Supply Station cables from the printer.



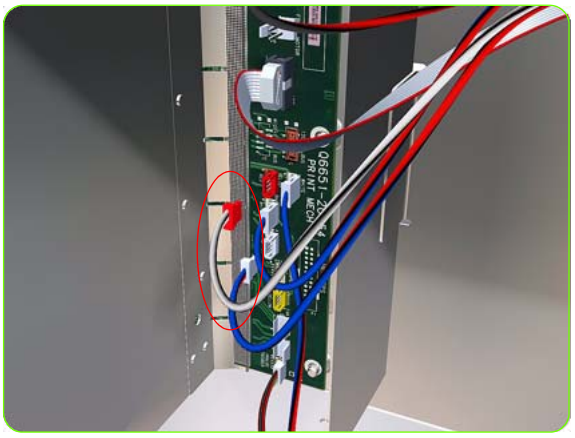

14. Remove the complete Ink Supply Station (upper and lower assemblies) from the Printer.

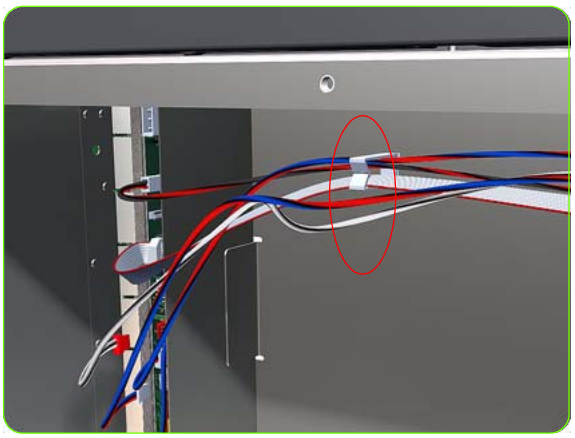
# APS Assembly

## Removal

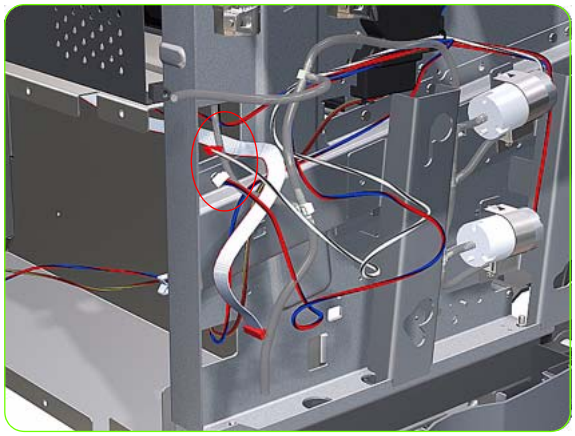
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Left Cover ⇒ See page 264.
2. Remove:
   - The Left Connector Cover or the 42-inch model ⇒ See page 287.
   - The Electronics Module Extension the 60-inch model ⇒ See page 288.
3. Remove the Scan-Axis Motor ⇒ See page 346.
4. Remove the Left Spittoon ⇒ See page 328.
5. Remove the ISS ⇒ See page 321.
6. Disconnect the APS 1 (Top unit) valve electrical connectors from the PCA.

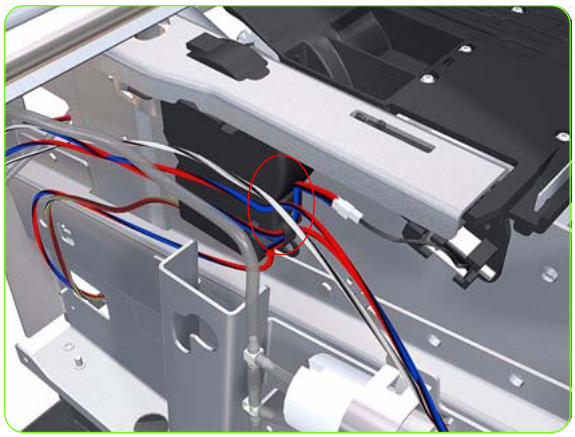




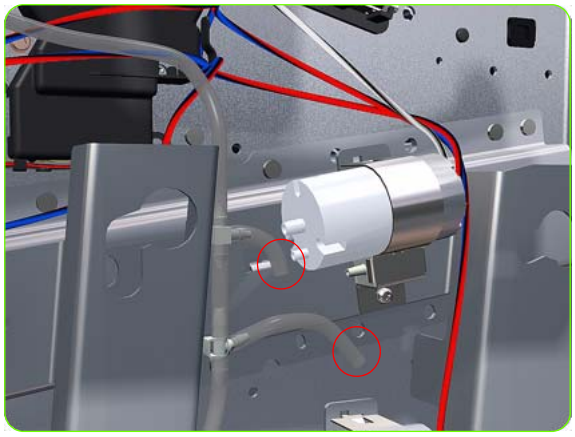
7. Unclip the APS 1 electrical cables from the cable clamps in the left connector panel



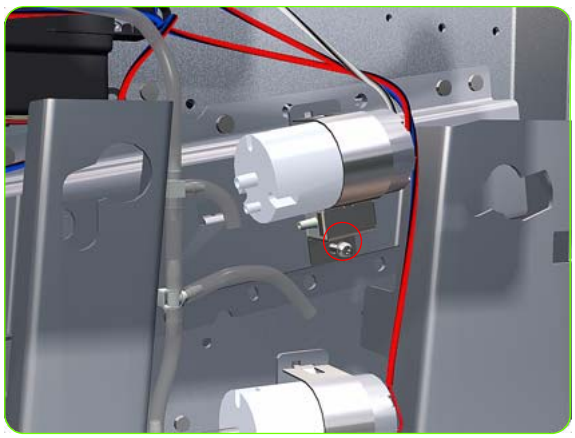
8. Unroute the APS 1 electrical connections from the left connector panel.



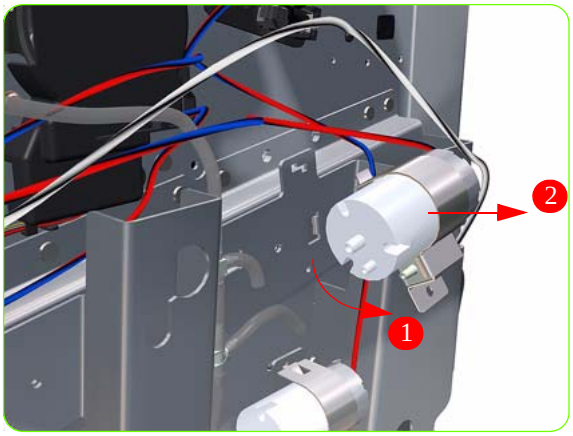
9. Unroute the electrical connections from the printer.



10. Disconnect both air tubes from APS 1.

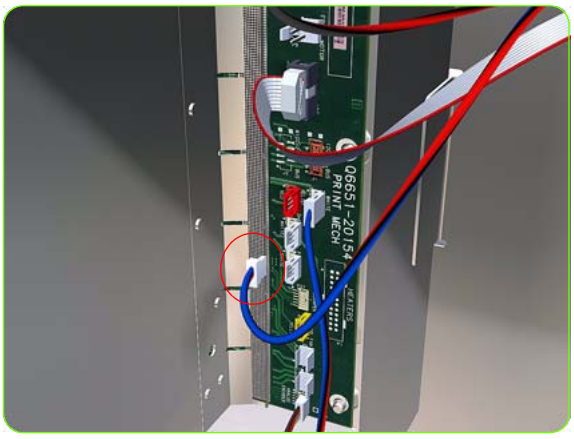


11. Remove one T-20 attachment screw from APS 1 (Top unit).

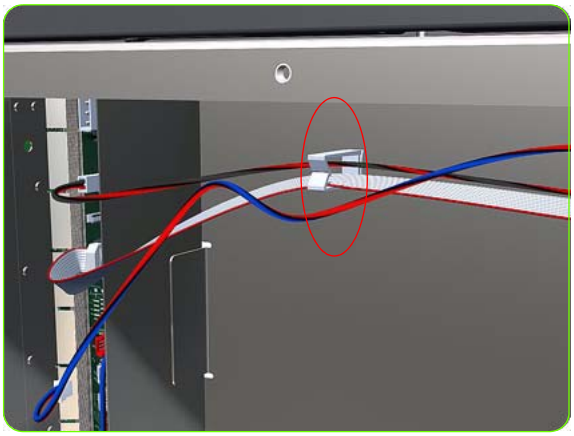



12. Remove APS 1 (Top unit) from the printer.

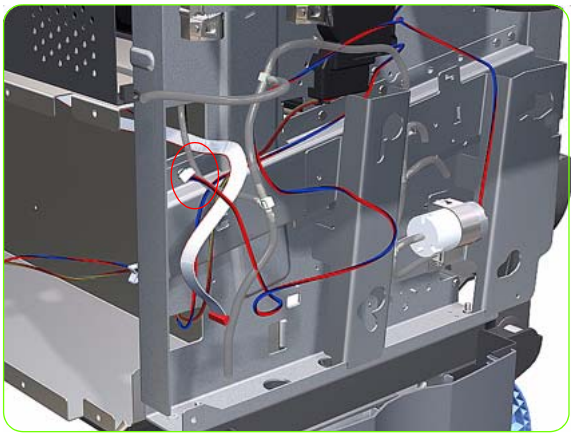
13. Remove the ISS ⇒ See page 321.



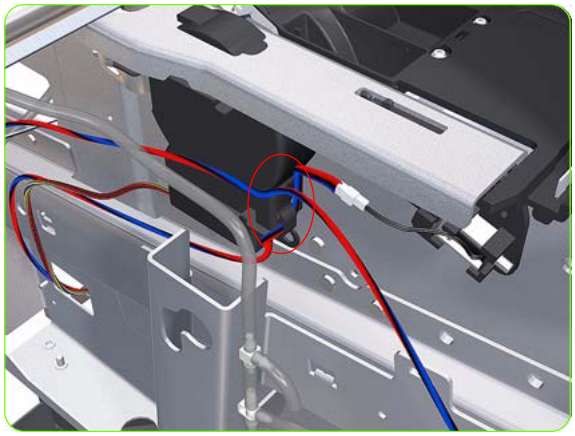

14. Disconnect the APS 2 (Top unit) valve electrical connectors from the PCA.



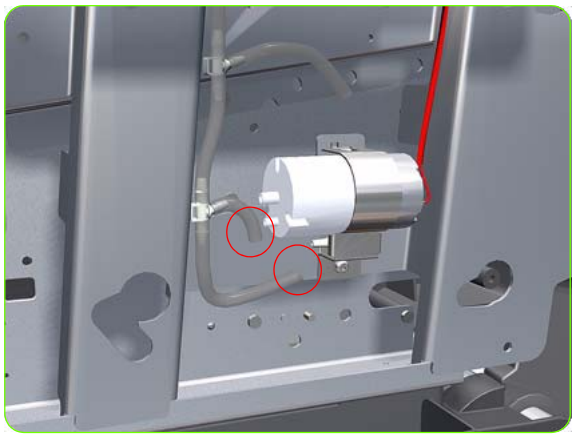
15. Unclip the APS 2 electrical cable from the cable clamps in the left connector panel



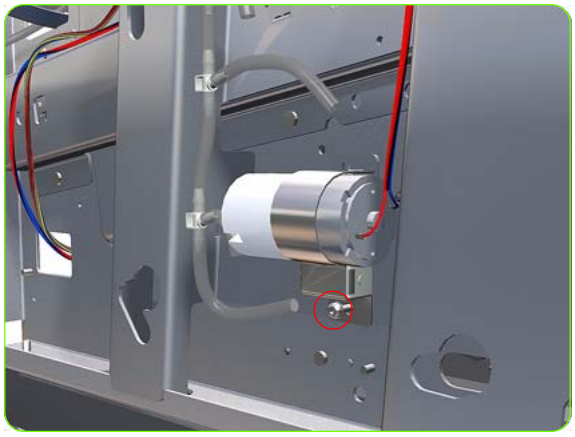
16. Unroute the APS 2 electrical connection from the Media Path Cover Encoder.



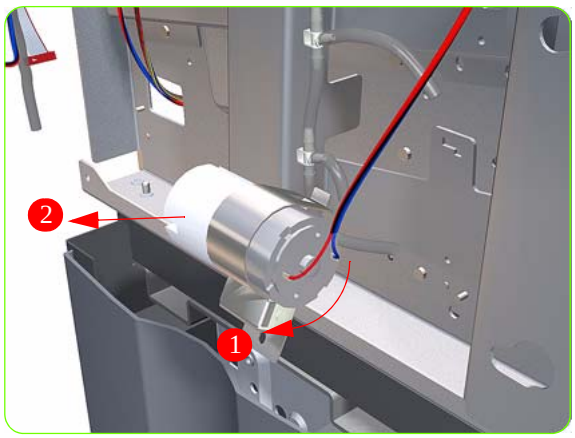
17. Unroute the APS 2 electrical connection from the printer.



18. Disconnect both air tubes from APS 2.



19. Remove one T-20 attachment screw from APS 1 (Top unit).



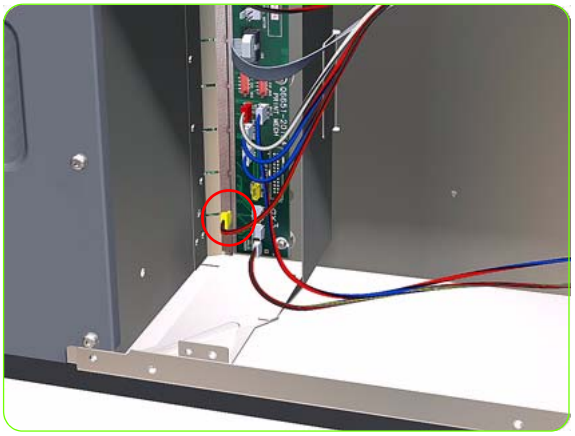

20. Remove APS 2 (Bottom unit) from the printer.

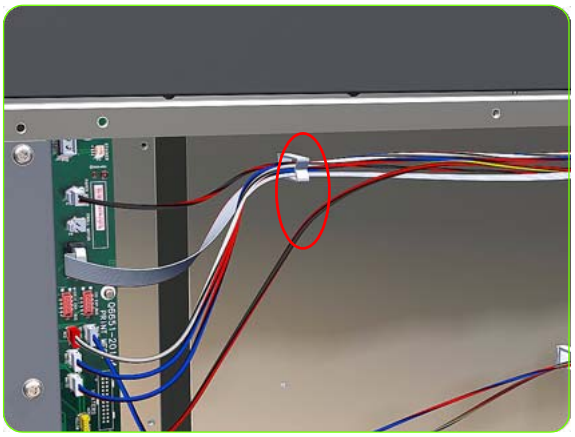
# Left Spittoon

## Removal

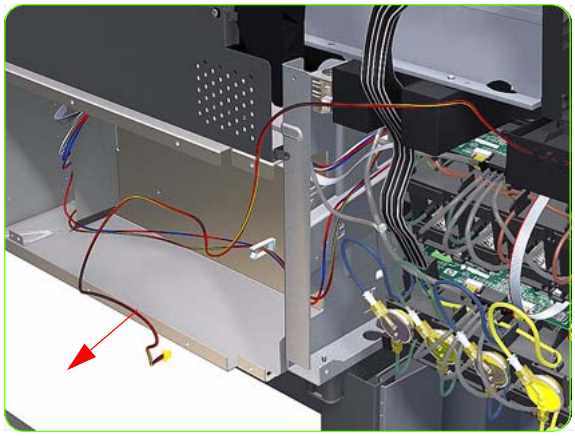
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Left Cover ⇒ See page 270.
2. Remove:
   - The Left Connector Cover or the 42-inch model ⇒ See page 287.
   - The Electronics Module Extension the 60-inch model ⇒ See page 288.
3. Remove the Scan-Axis Motor ⇒ See page 346.
4. Disconnect the Left Spittoon Fan cable from the PrintMech PCA.

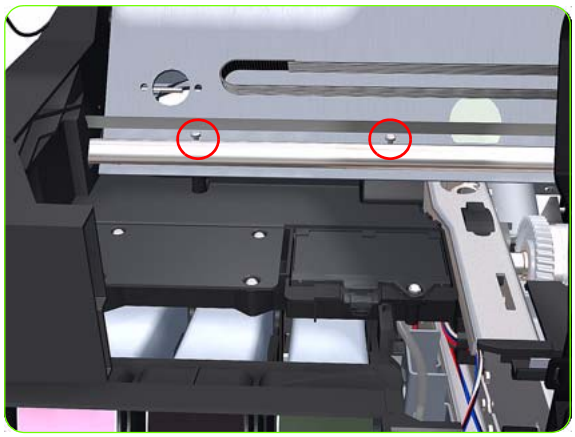




5. Unroute the Left Spittoon Fan cable.

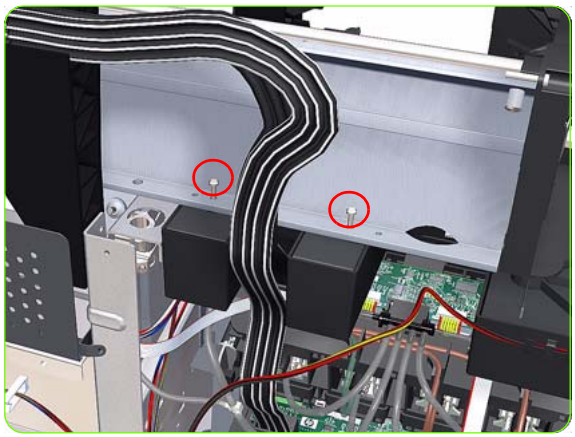


6. Unroute the Left Spittoon Fan cable.

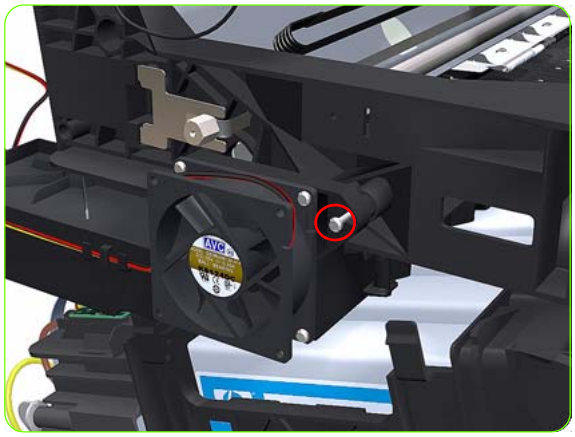


7. Remove two T-15 attachment screws (**Type J**) from the Scan-Axis Beam.

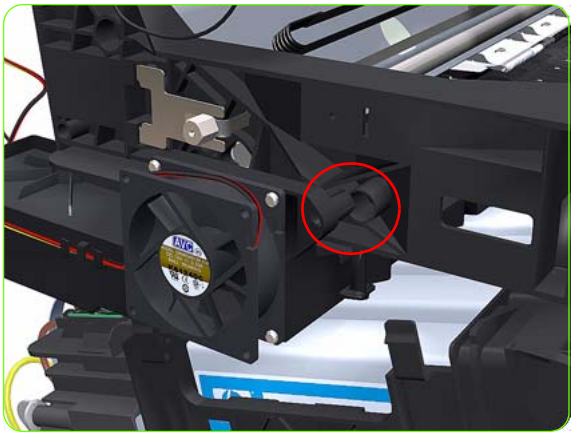
**NOTE:** Be very careful not to damage the encoder strip while removing the attachment screws.



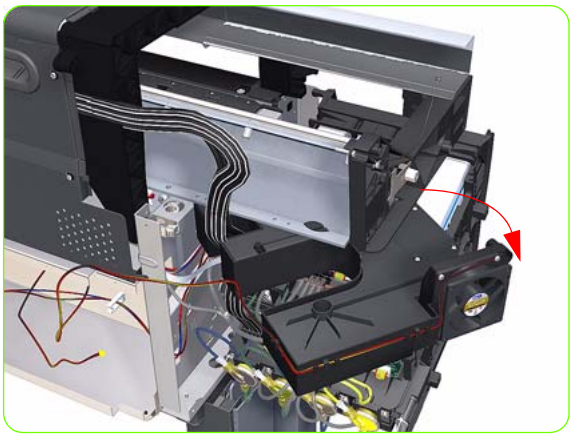
8. Remove two T-15 attachment screws from the Scan-Axis Beam.



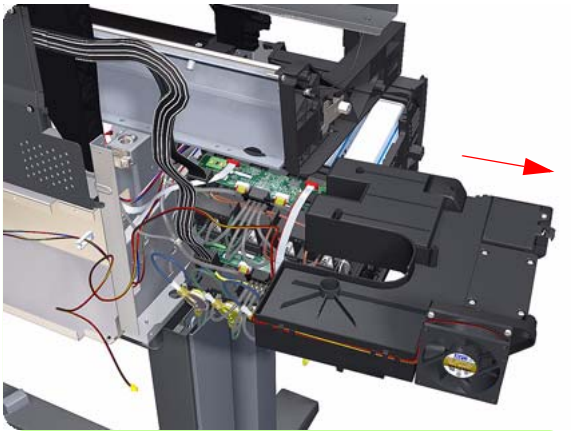
9. Remove one T-15 attachment screw.



10. Unclip the Spittoon attachment point so yo can rotate it in the next step.



11. Rotate the Left Spittoon clockwise.



12. Remove the Left Spittoon from the Printer.

**NOTE:** After installing the NEW Left Spittoon, make sure you perform the following Service Utility:

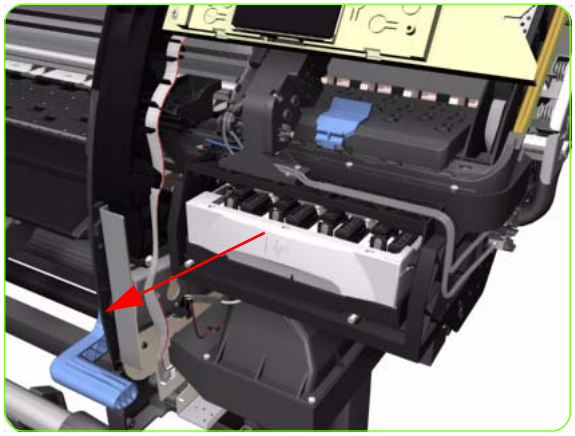
- Reset life counter left spittoon ⇒ Chapter 4.

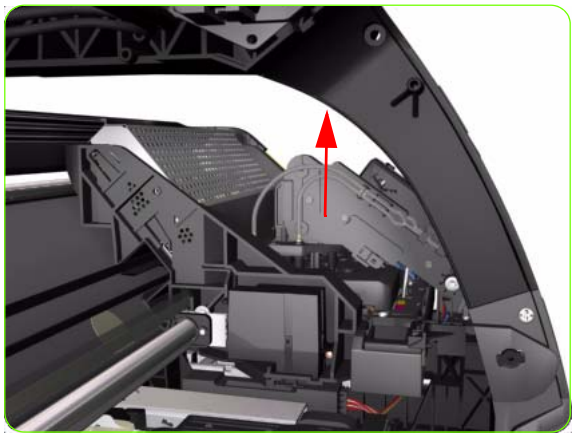
# Encoder Strip and Encoder Sensor

## Removal

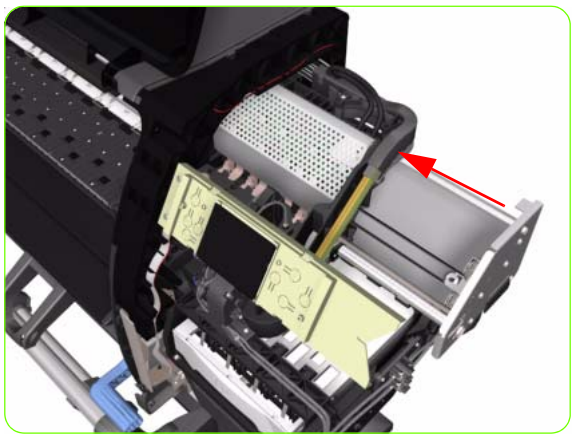
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Cover ⇒ See page 264.
2. Remove the Left Cover ⇒ See page 270.
3. Uncap the Carriage Assembly by manually pulling out the Printhead Maintenance Cartridges tray.

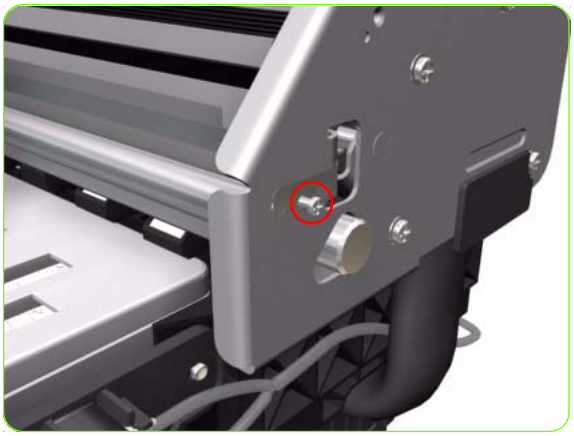




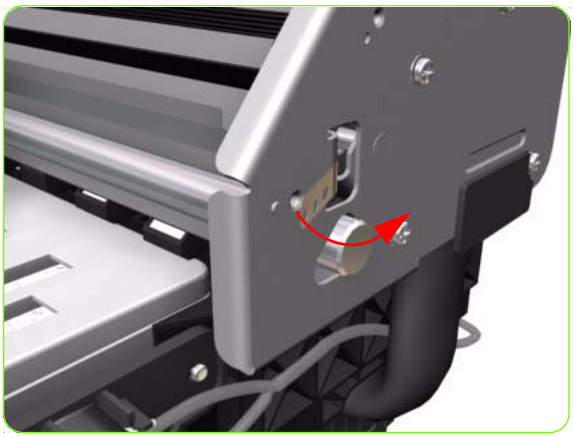
4. Lift the Primer and hold the Primer to its maximum position to avoid damaging it when you move the Carriage Assembly in the next step.



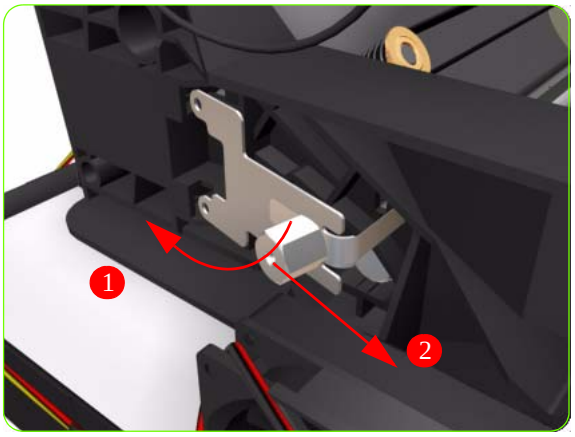
5. Move the Carriage Assembly out of the Service Station.



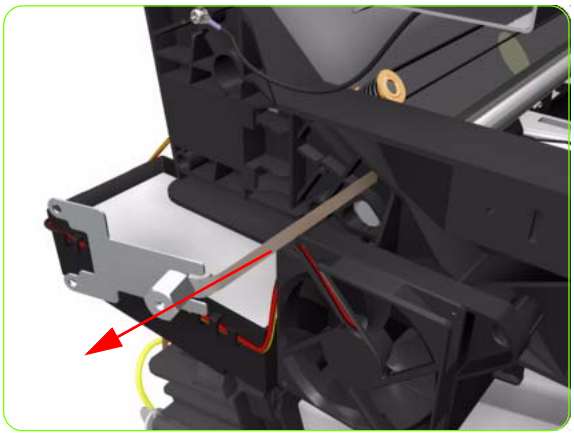
6. Remove one T-10 screw (**Type I**) that secures the Encoder Strip on the right hand side of the Printer.



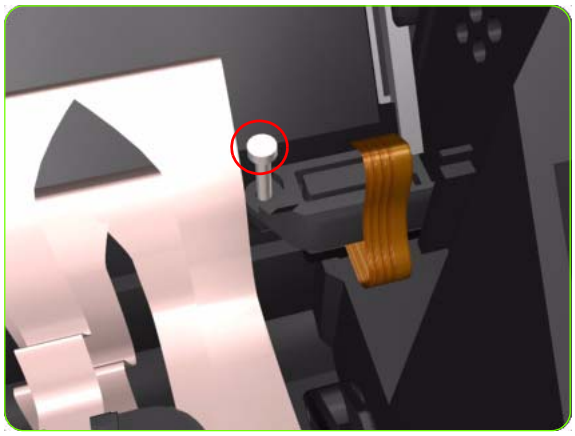
7. Release the Encoder Strip from the locating pins on the right hand side of the Printer.



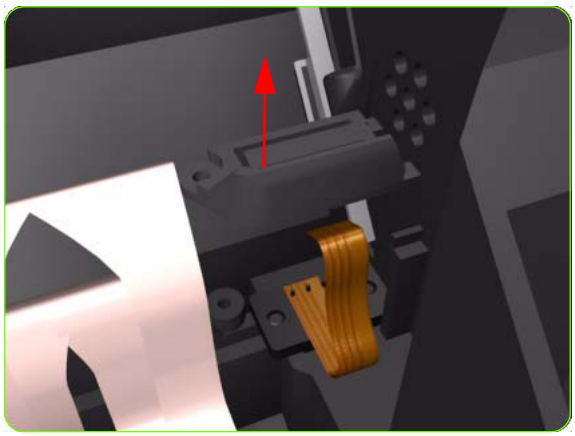

8. Release the Spring Clip from the Bracket on the left hand side of the Printer.



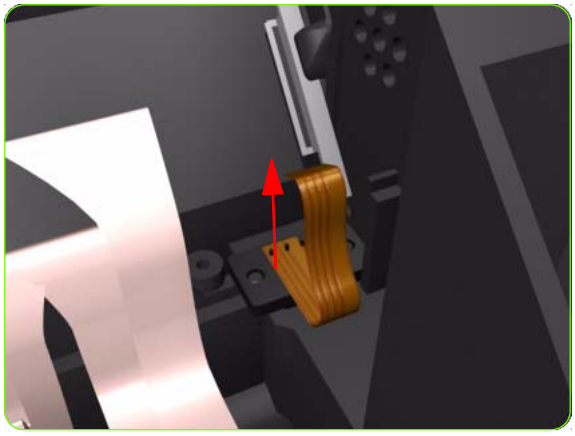
9. Carefully pull the Encoder Strip out of the left hand side of the Printer.
10. Remove the Carriage PCA ⇒ See page 334.



11. Remove one T-8 (**Type L**) screw that secures the Encoder Sensor to the Carriage Assembly.



12. Remove the plastic cover from the Encoder Sensor.



13. Remove the Encoder Sensor from the Printer.

**NOTE:** After installing the NEW Encoder Strip and Encoder Sensor, make sure you perform the following Service Calibration:

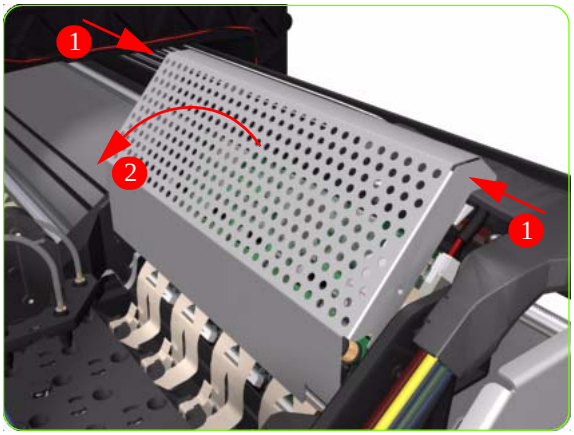
- Scan-Axis Calibration ⇒ Chapter 5.

# Carriage PCA

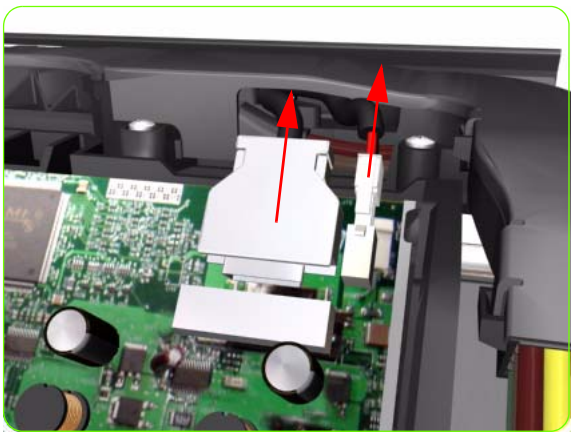
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

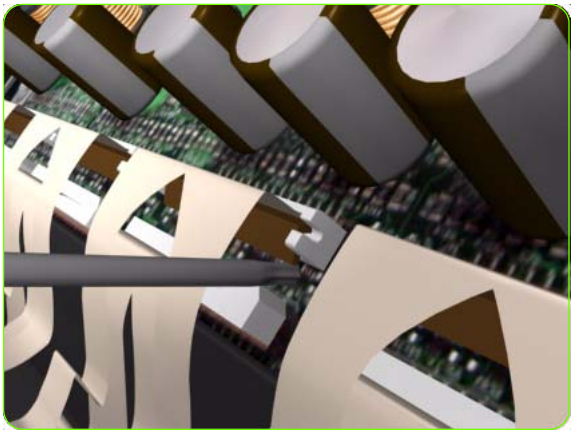
1. Remove the Right Cover ⇒ See page 264.
2. Press the two side of the Carriage PCA Cover and unclip from the Carriage Assembly.

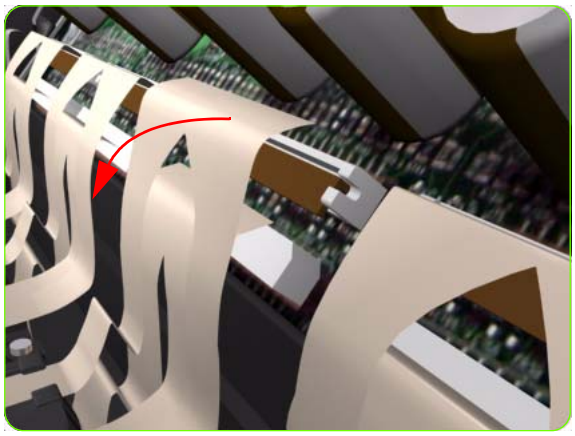



3. Disconnect the Trailing Cable from the Carriage PCA.

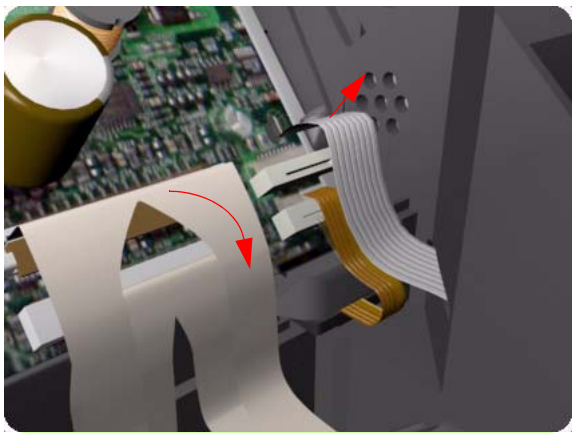


4. Use a flat bladed screwdriver to release the ALL the clips, securing the Carriage Flex Cables to the Carriage Assembly, by pulling upwards.

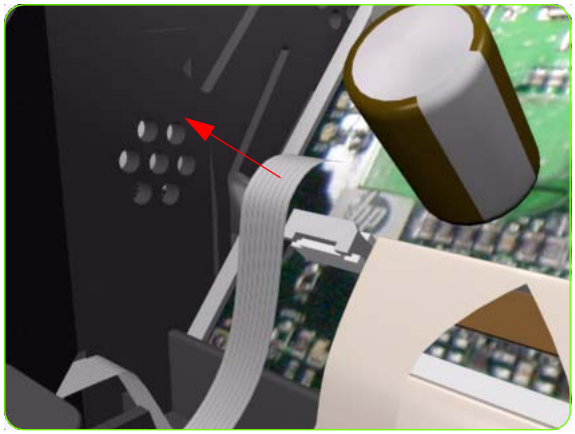




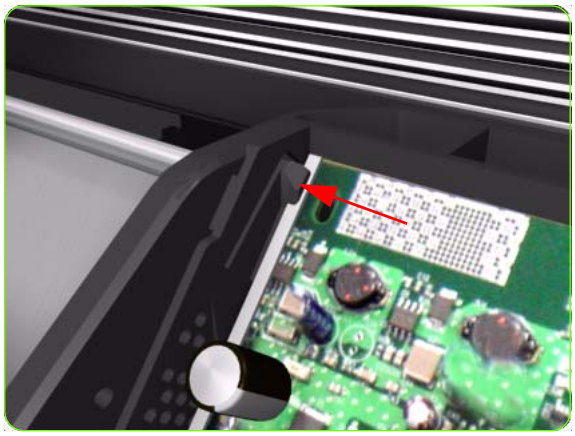
5. Disconnect the Flex Cables from the Carriage PCA.



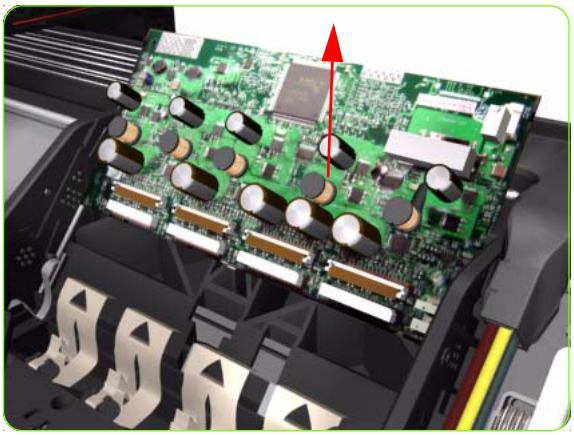
6. Disconnect the Line Sensor Cable and the Encoder Sensor Cable from the Carriage PCA.



7. Disconnect the Color Sensor Cable from the Carriage PCA.



8. Push inwards the four clips that secure the Carriage PCA.



9. Remove the Carriage PCA from the Printer.

**NOTE:** Once you have installed a NEW Carriage PCA, you MUST perform the following steps to ensure that the Printer will function correctly:

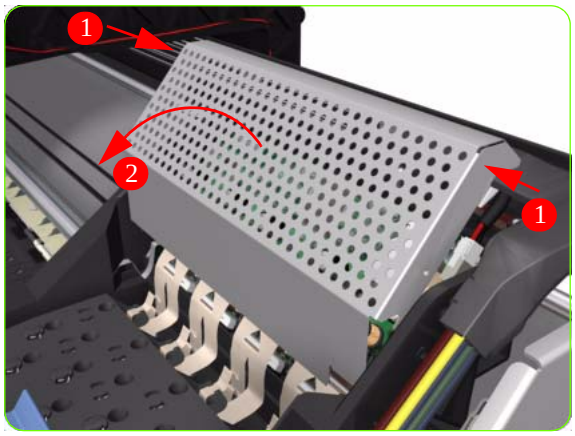
1. Power ON the Printer.
2. Execute the "Carriage Setup" Utility from the Service Utility Menu (Refer to Chapter 4 for more information).
3. Install the Printheads once the Utility has been completed successfully.
4. Reset life counter Carriage PCA ⇒ Chapter 4.

# Carriage Flex Cables

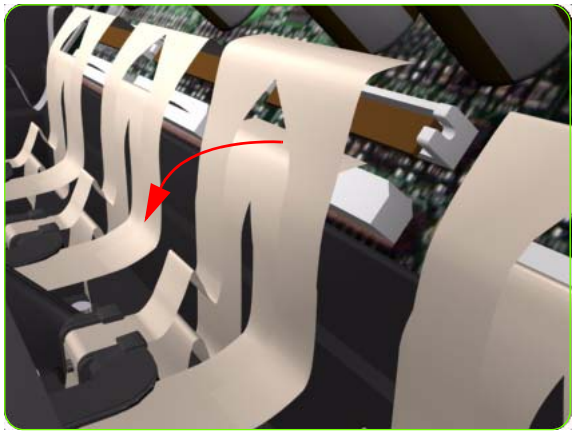
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

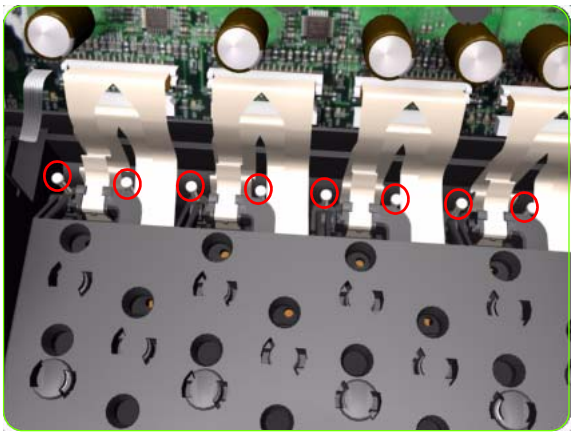
1. Remove the Right Cover ⇒ See page 264.
2. Remove the Front Panel ⇒ See page 292.
3. Remove the Primer Assembly ⇒ See page 294.
4. Press the two side of the Carriage PCA Cover and unclip from the Carriage Assembly.



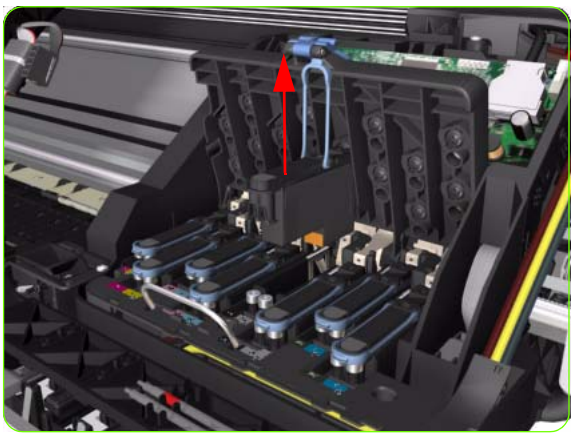
5. Use a flat bladed screwdriver to release the ALL the clips, securing the Carriage Flex Cables to the Carriage Assembly, by pulling upwards.



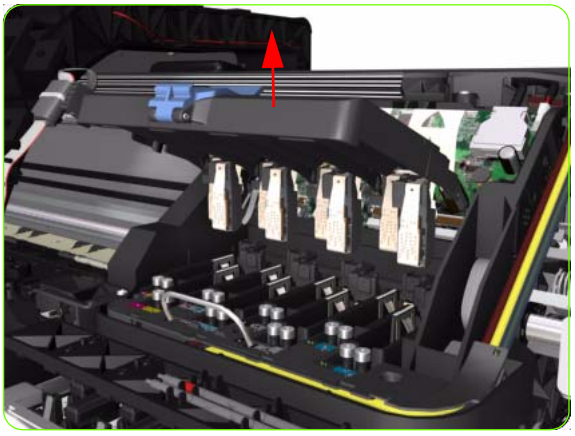
6. Disconnect the ALL the Flex Cables from the Carriage PCA.



7. Remove eight T-8 screws (**Type L**) that secure the Carriage Flex Cables to the Carriage Assembly.



8. Open the Carriage Cover and remove ALL the Printheads from the Carriage Assembly.



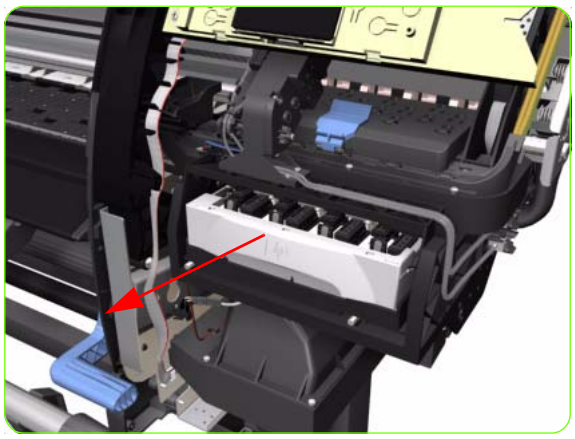
9. Remove the Carriage Flex Cable from the Printer.

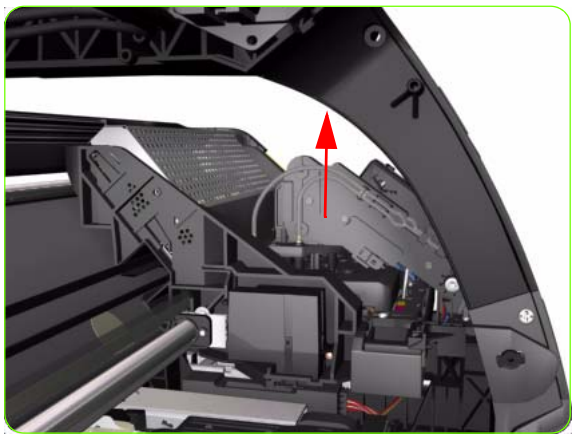
# Carriage Assembly

## Removal

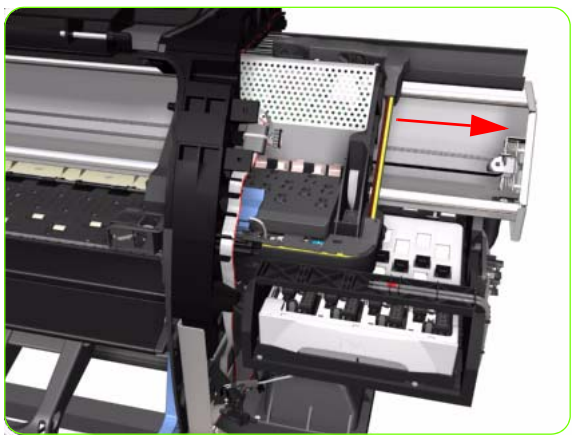
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Cover ⇒ See page 264.
2. Remove the Front Panel ⇒ See page 292.
3. Remove the Primer Assembly ⇒ See page 294.
4. Remove the Left Cover ⇒ See page 270.
5. Remove the Encoder Strip ⇒ See page 331.
6. Pull out the Printhead Maintenance Cartridges tray.

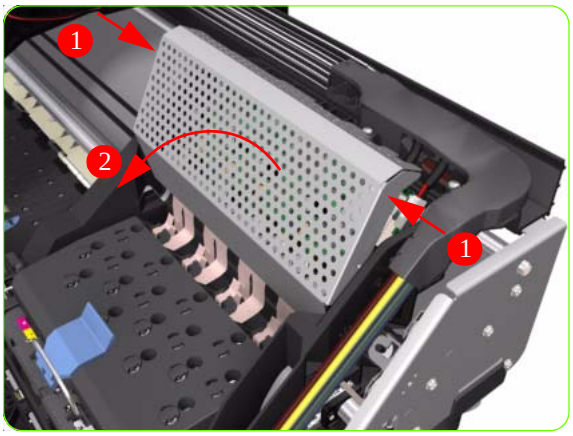




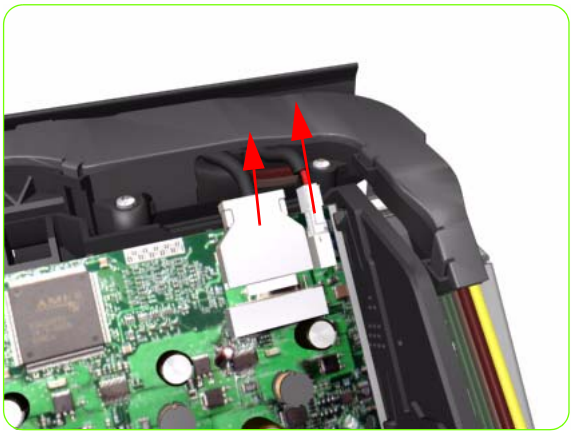
7. Lift the Primer and hold the Primer to its maximum position to avoid damaging it when you move the Carriage Assembly in the next step.



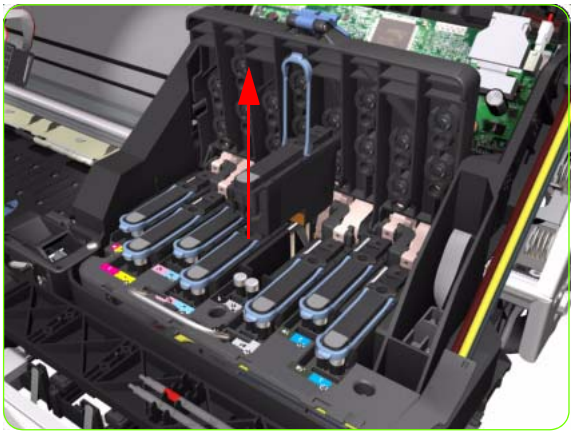
8. Move the Carriage Assembly to the extreme right of the Printer.



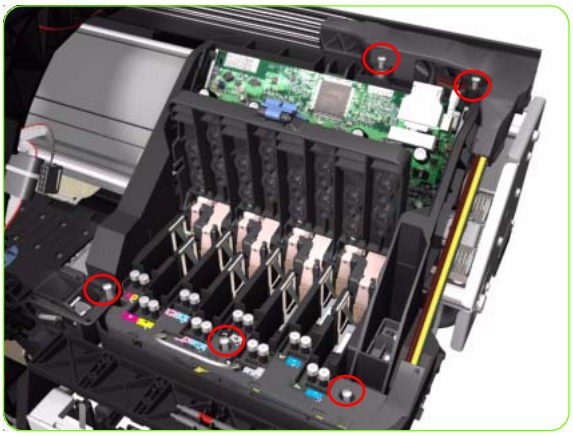

9. Press the two side of the Carriage PCA Cover and unclip from the Carriage Assembly.



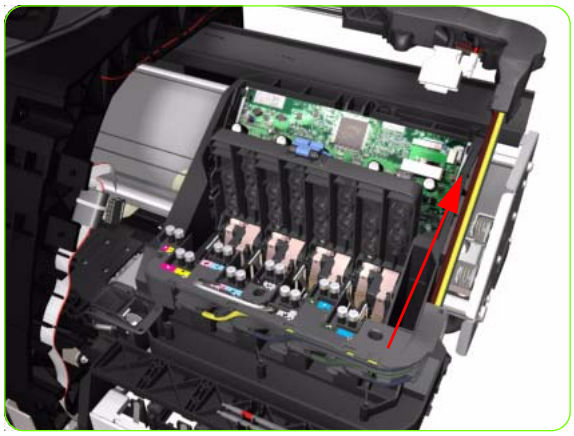
10. Disconnect the Trailing Cable from the Carriage PCA.



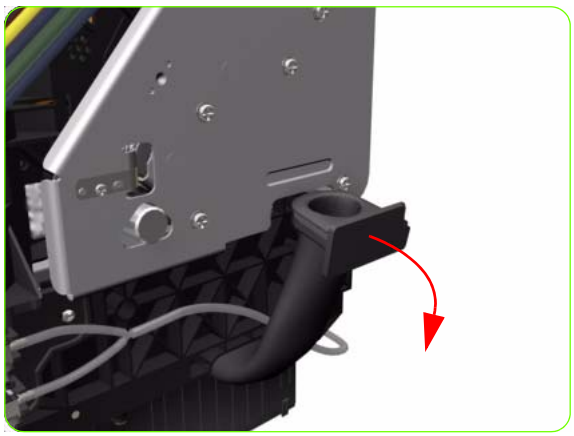
11. Open the Carriage Cover and remove ALL the Printheads from the Carriage Assembly.



12. Remove five T-15 screws (**Type G**) that secure the Ink Supply Tubes to the Carriage Assembly.

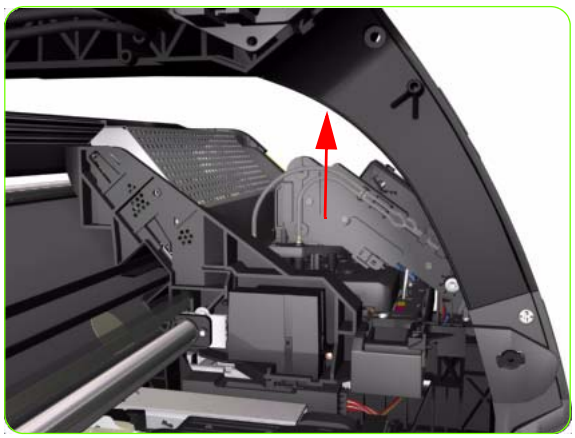


13. Remove the Ink Supply Tubes from the Carriage Assembly and safely place to one side of the Printer.

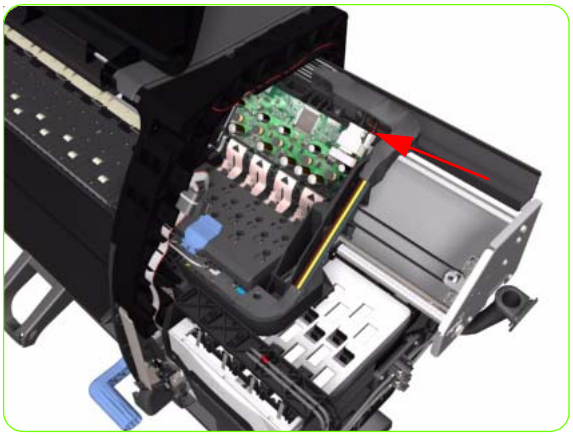


14. Disconnect the Aerosol Fan Tube from the Chassis.

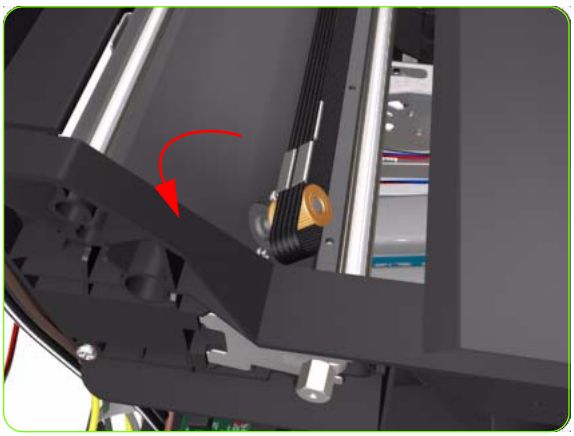
15. Remove one T-20 screw (**Type A**) that secures the Belt Tensioner to the Chassis.



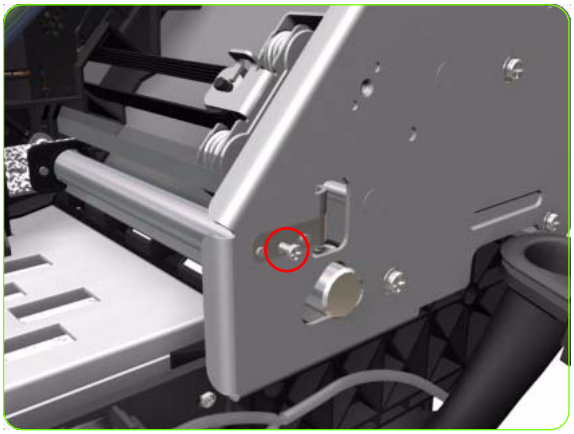
16. Lift the Primer and hold the Primer to its maximum position to avoid damaging it when you move the Carriage Assembly in the next step.



17. Move the Carriage Assembly slightly away from the right Scan-Axis Bracket.



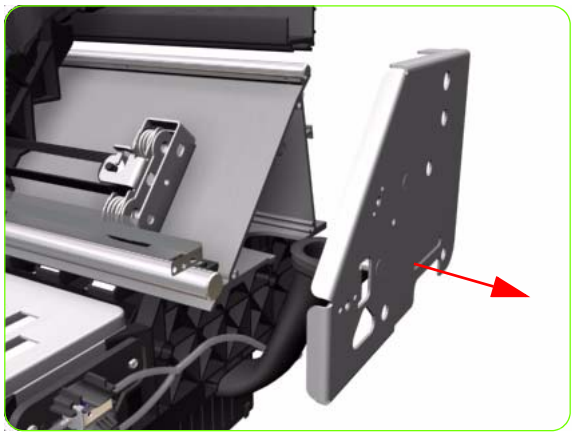
18. Release the Carriage Belt from the Scan-Axis Motor on the left hand side of the Printer.



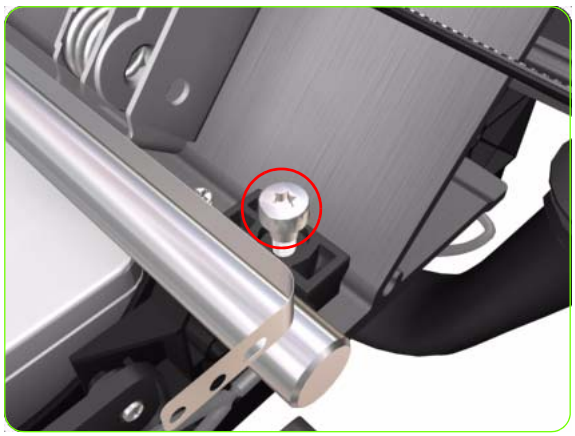
19. Remove one T-10 screw (**Type C**) that secure the Encoder Strip.

20. Remove four T-20 screws (**Type N**) that secure the right Scan-Axis Bracket.

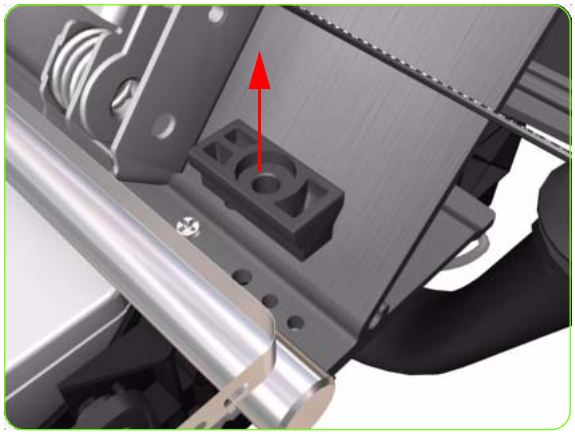
**NOTE:** Note that these are Chassis screws and in normal circumstances should NEVER be removed, but in this case we need to remove them in order to remove the Carriage Assembly.



21. Remove the right Scan-Axis Bracket from the Printer.



22. Remove the Carriage Stopper Screw (T-20) from the Chassis.



23. Remove the Carriage Stopper from the Printer.

24. Slide the Carriage Assembly (including the belt) to the right and out of the Printer.

25. If the Carriage Assembly is to be replaced, make sure that you remove the Belt, the Carriage PCA, Color Sensor, Encoder and Line Sensors and the Cutter Assembly (in order to install them on the new Carriage Assembly).

**NOTE:** After installing the NEW Carriage Assembly, make sure you perform the following Service Utility:

- Reset life counter Carriage ME ⇒ Chapter 4.

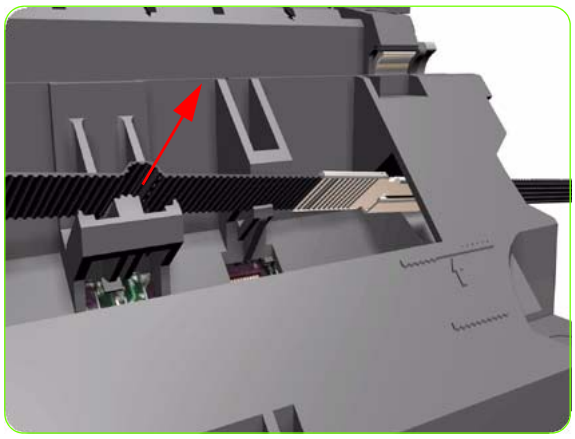
**NOTE:** After installing the NEW Carriage Assembly, make sure you perform the following Service Calibrations:

- Scan-Axis Calibration ⇒ Chapter 5.
- Service Station Calibration ⇒ Chapter 5.
- Line Sensor Calibration ⇒ Chapter 5.

# Belt Assembly

## Removal

**WARNING!:** Switch off the printer and remove the power cable.



1. Remove the Right Cover ⇒ See page 264.
2. Remove the Left Cover ⇒ See page 270.
3. Remove the Top Cover ⇒ See page 277.
4. Remove the Encoder Strip ⇒ See page 331.
5. Remove the Carriage Assembly ⇒ See page 339.
6. Release the Belt from the bottom of the Carriage Assembly.

**NOTE:** After installing the NEW Belt Assembly, make sure you perform the following Service Utility:

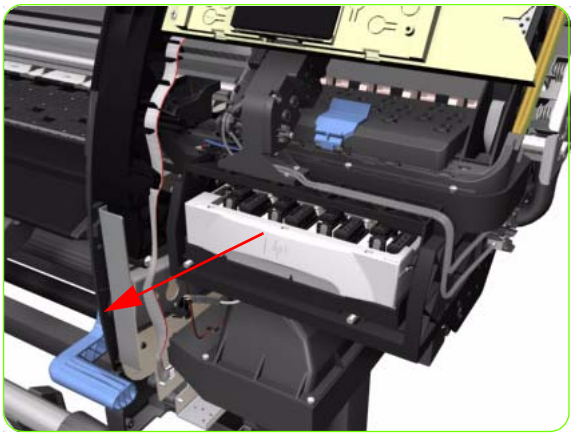
- Reset life counter scan cycles belt ⇒ Chapter 4.

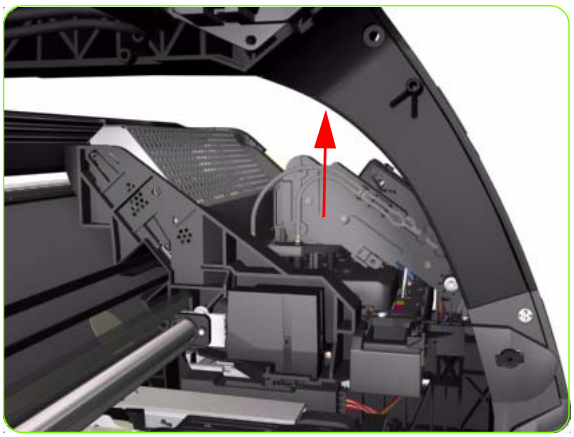
# Scan-Axis Motor

## Removal

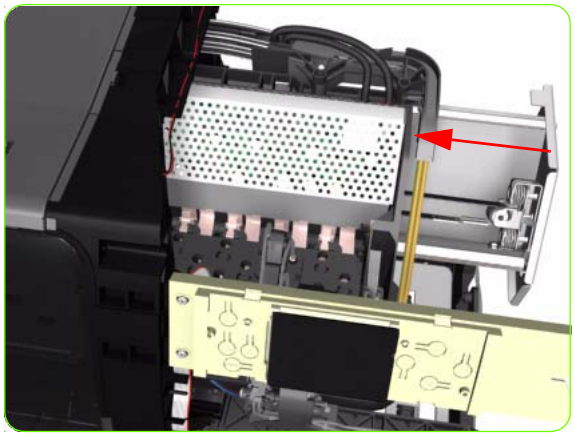
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Cover ⇒ See page 264.
2. Remove the Left Cover ⇒ See page 270.
3. Remove:
   - For the 42-inch model, the Left Connector Cover ⇒ See page 287.
   - For the 60-inch model, the Electronics Module Extension⇒ See page 288.
4. Uncap the Carriage Assembly by manually pulling out the Printhead Maintenance Cartridges tray.



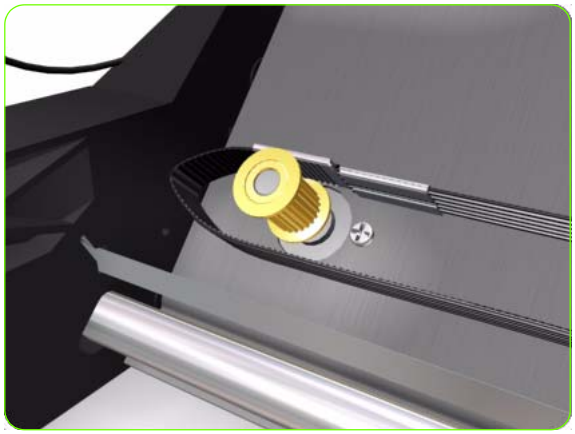


5. Lift the Primer and hold the Primer to its maximum position to avoid damaging it when you move the Carriage Assembly in the next step.



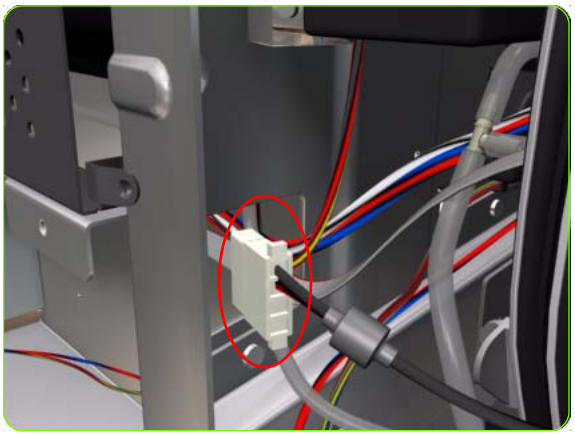
6. Move the Carriage Assembly slightly away from the right Scan-Axis Bracket.

7. Remove one T-15 screw that secures the Belt Tensioner to the Chassis.

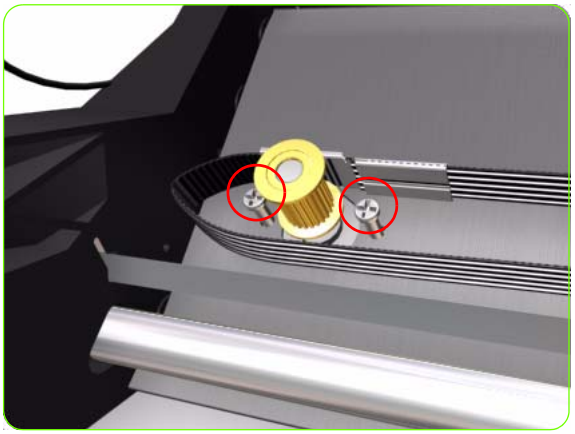


8. Release the Carriage Belt from the Scan-Axis Motor on the left hand side of the Printer.

9. Disconnect the Scan-Axis Motor cable from the PrintMech PCA.

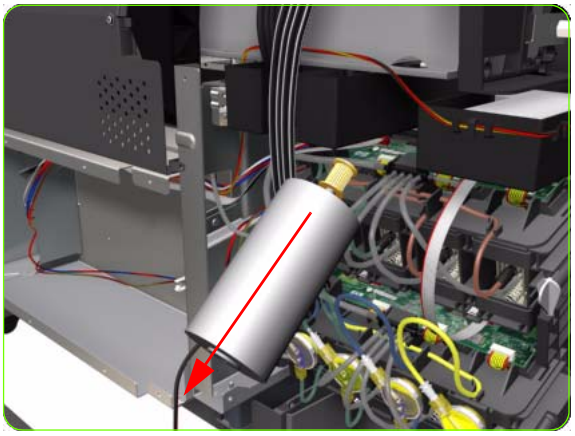


10. Unroute the Scan-Axis Motor cable from the chassis.



11. Remove two T-20 screws (**Type A**) that secure the Scan-Axis Motor.

**NOTE:** Make sure you hold the Scan-Axis Motor securely when removing the screws.



12. Remove the Scan-Axis Motor from the Printer.

**NOTE:** After installing the NEW Scan-Axis Motor, make sure you perform the following Service Utility:

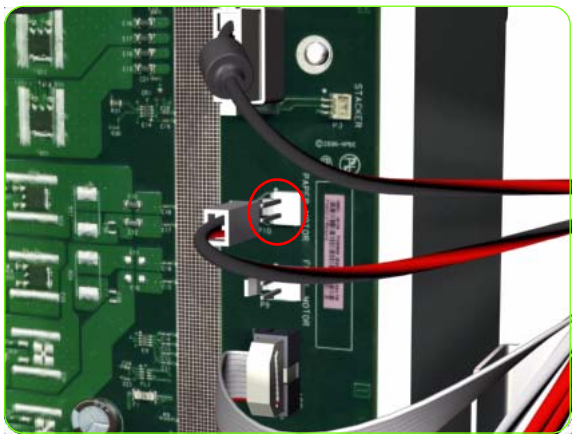
- Reset scan motor life counter ⇒ Chapter 4.

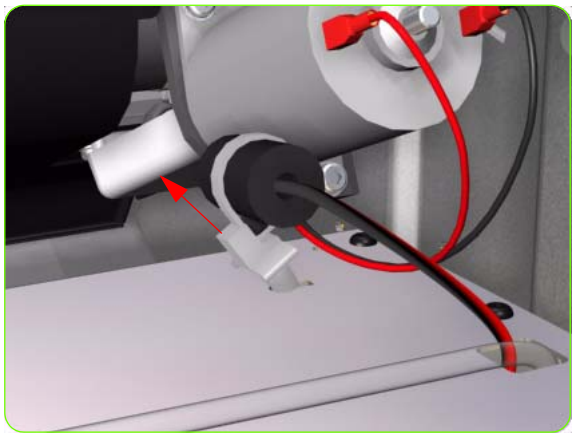
# Media-Axis Motor

## Removal

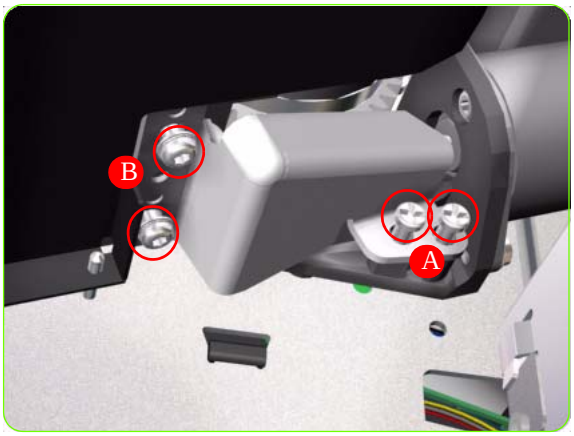
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Left Cover ⇒ See page 270.
2. Remove the Rear Door ⇒ See page 283.
3. Remove:
   - For the 42-inch model, the Left Connector Cover ⇒ See page 287.
   - For the 60-inch model, the Electronics Module Extension⇒ See page 288.
4. Disconnect the Media-Axis Motor cable from the PrintMech PCA.

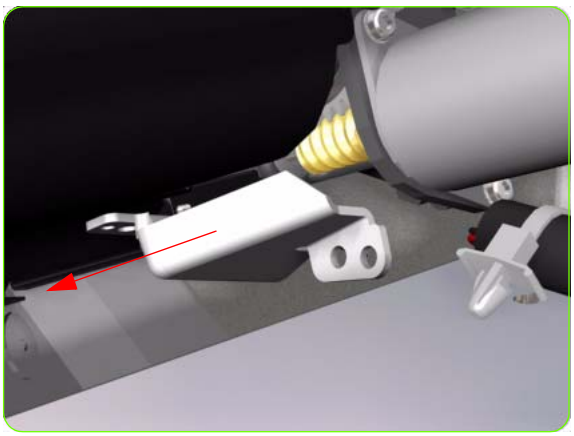




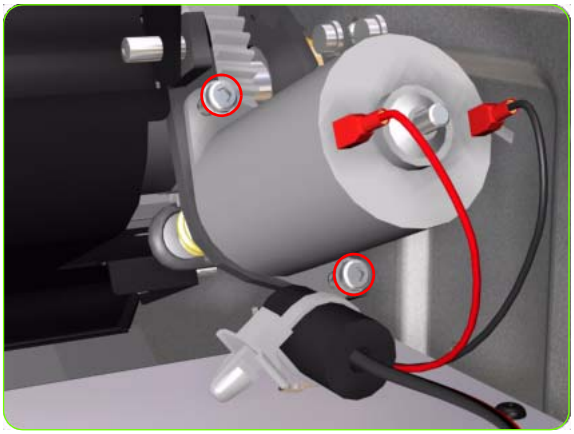
5. Detach the clamp of the ferrite core of the Media-Axis Motor cable from the printer chassis.



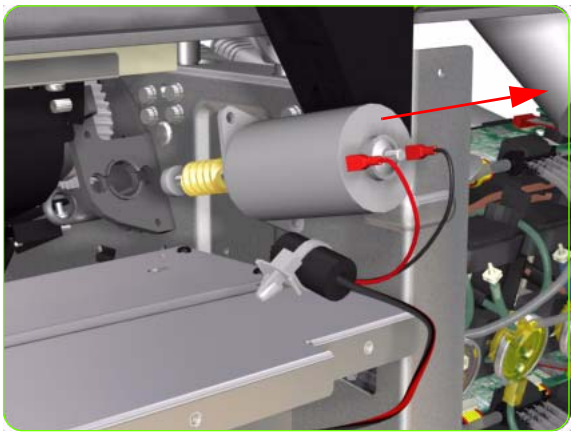

6. Remove the T-15 screws (**Type R**) identified (A) and loosen the T-15 screws (**Type R**) identified (B) that secure the Media-Axis Motor.



7. Remove the Media-Axis Motor Bracket.



8. Remove two T-20 screws (**Type B**) that secure the Media-Axis Motor Bracket.



9. Remove the Media-Axis Motor from the Printer.

**NOTE:** When reinstalling the parts, make sure you apply the grease (included with the support part) to the gears.

**NOTE:** After installing the NEW Media-Axis Motor, make sure you perform the following Service Calibration:

- Paper Advance Calibration ⇒ Chapter 5.

# Optical Media Advance Sensor (OMAS)

## Removal

**WARNING!:** Switch off the printer and remove the power cable.

**NOTE:** The removal procedure differs depending on the Printer model, 42-inch or 60-inch.

### 42-inch model ONLY

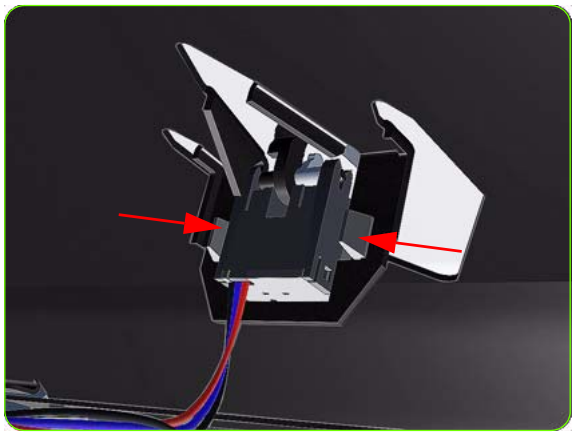
1. Open the Rear Door. and go to step 4.

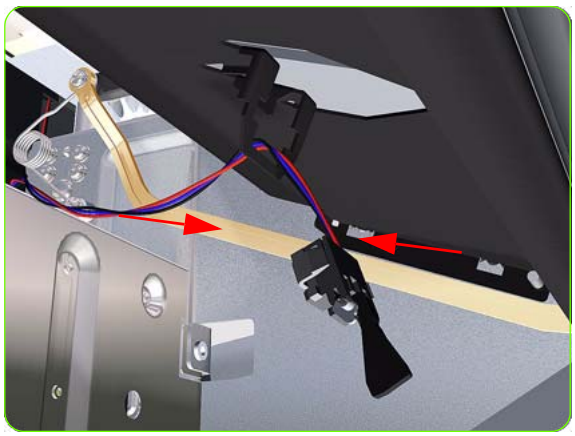
### 60-inch model ONLY

2. Remove the Left Cover ⇒ See page 270.
3. Remove the Rear Door ⇒ See page 283.

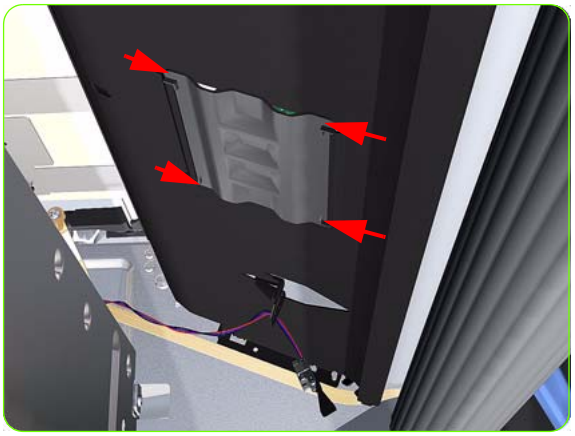
### Both models

4. Remove media if installed.
5. Squeeze the clips to unclip the Media Sensor from the Center Guide.

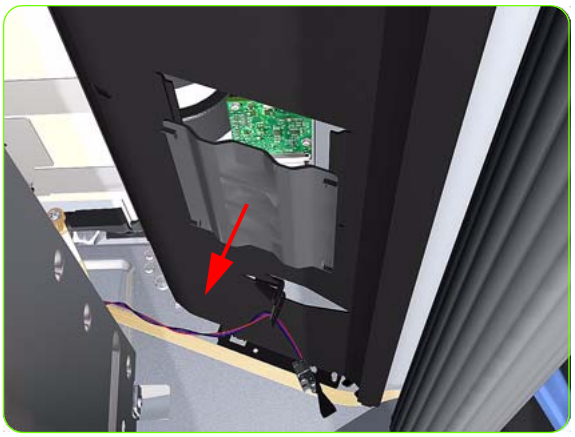




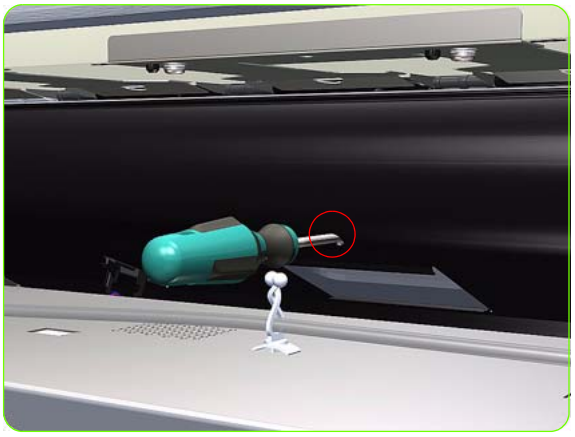
6. Let the Media Sensor hang below the Center Guide. This is to ensure it does not get damaged by the ribbon cable of the OMAS during the removal procedure.



7. Squeeze the corners of the OMAS Access Cover release it from the bottom of the printer.



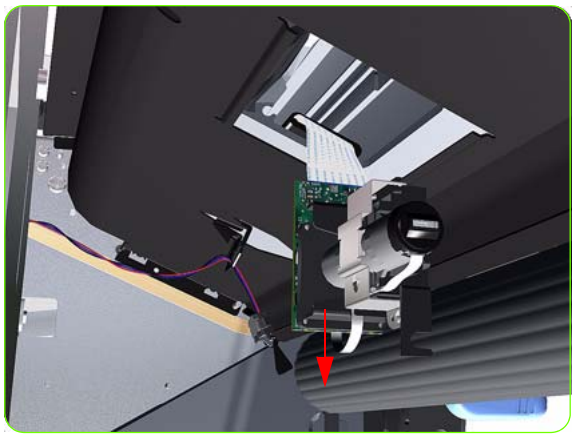
8. Remove the OMAS Access Cover the printer.



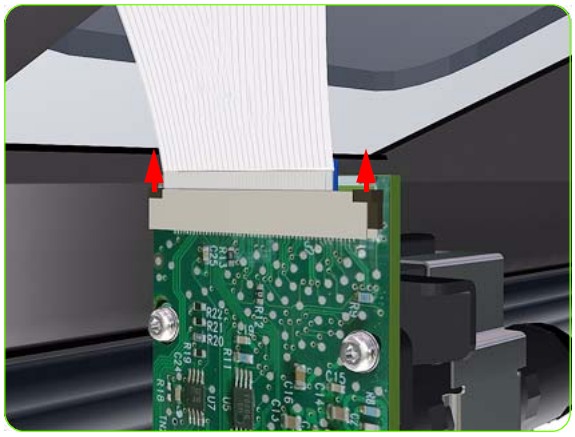
9. Insert the T-20 thin bladed torx screwdriver (supplied with the replacement OMAS) into the access hole at the rear of the printer.

10. Remove and discard one T-20 screw which secures the OMAS horizontally to the printer.

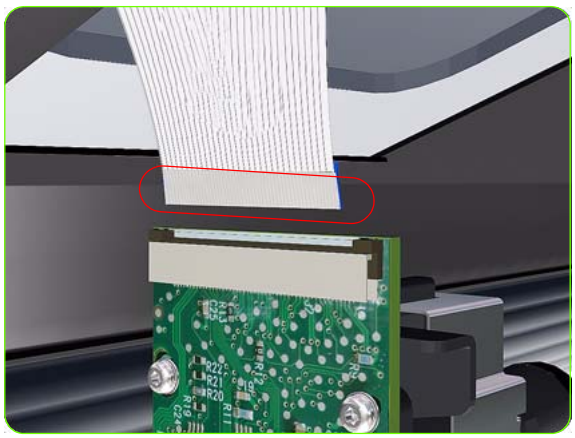
11. From the bottom of the printer, remove and discard one T-20 screw which secures the OMAS vertically to the printer.



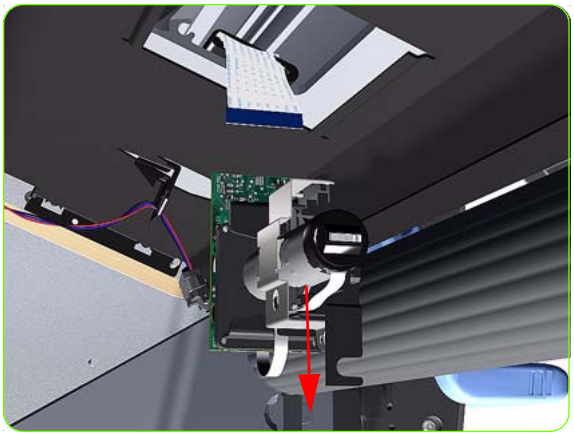
12. Carefully lower the OMAS from the printer as far as you can with the large ribbon cable still connected.



13. Release the two locking clips of the large ribbon cable connector.



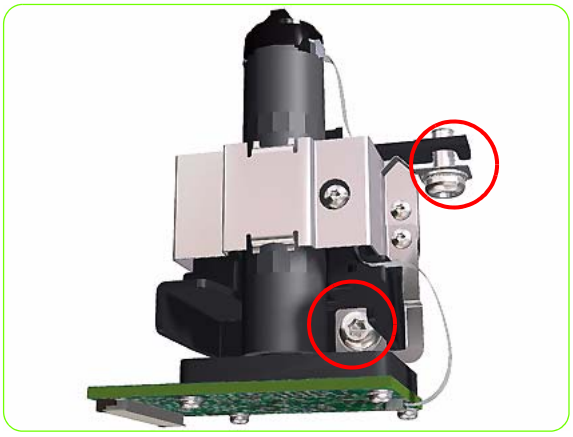
14. Disconnect the large ribbon cable from the OMAS.



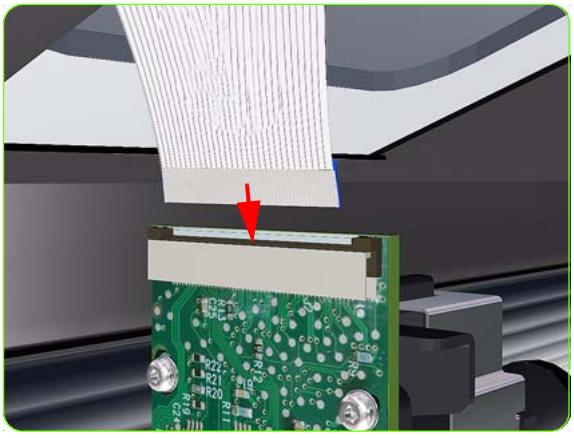
15. Remove the OMAS Sensor from the printer.

## Installation

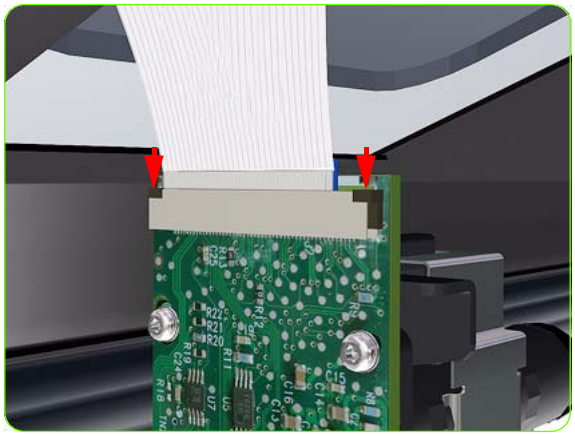
**NOTE:** To simplify the installation of the OMAS an Attachment Screw Retainer has been added to hold the two T-20 attachment screws. This part is delivered attached to the replacement OMAS unit with the two attachment screws. It is also delivered as a separate part with the Center Platen in case the OMAS is completely removed during its replacement.



1. Verify that the two T-20 attachment screws are correctly positioned in the Attachment Screw Retainer.



2. Position the OMAS under the Printer and connect the large ribbon.



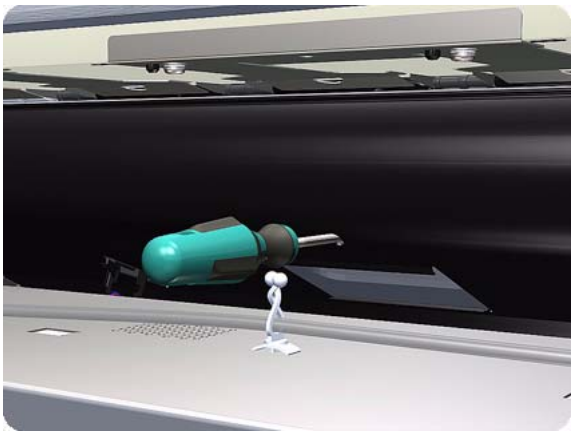
3. Lock the clips of the large ribbon cable connector.

4. Carefully push the OMAS fully up into its mounting so that the OMAS window protrudes slightly **ABOVE** the Center Platen (approximately 0-2 mm). To ensure the OMAS is correctly positions, slide a sheet of paper over the Platen Ribs until it is stopped by the OMAS. This ensures the OMAS is protruding slightly above the platen.

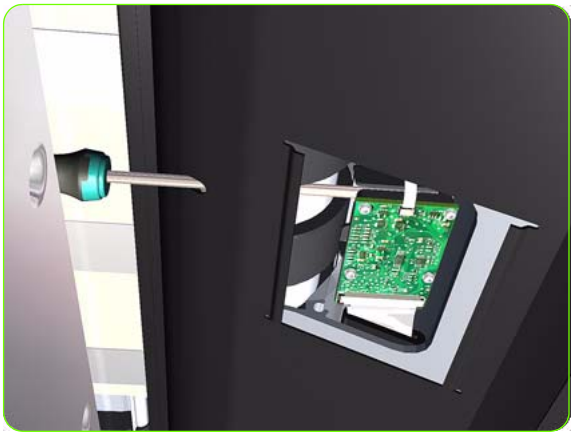
△ **CAUTION:** Make sure the OMAS is pushed completely up into its mounting or you will encounter an error during the OMAS calibration because it will not be able to focus on the paper.

5. Slide a sheet of paper over the OMAS window, if the paper is not stopped by the OMAS, repeat step 4 to ensure the OMAS is pushed fully up into its the mounting.

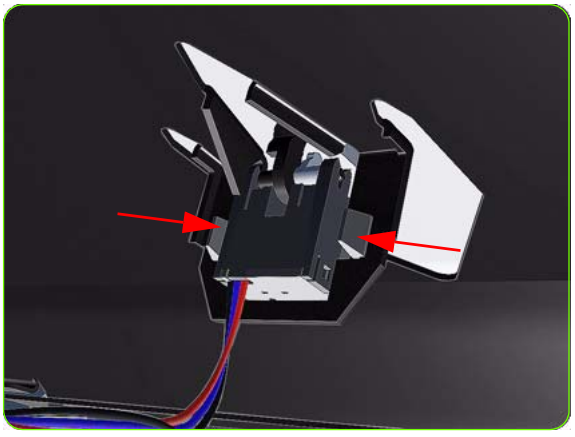
6. **FULLY** tighten the T-20 vertical attachment screw.



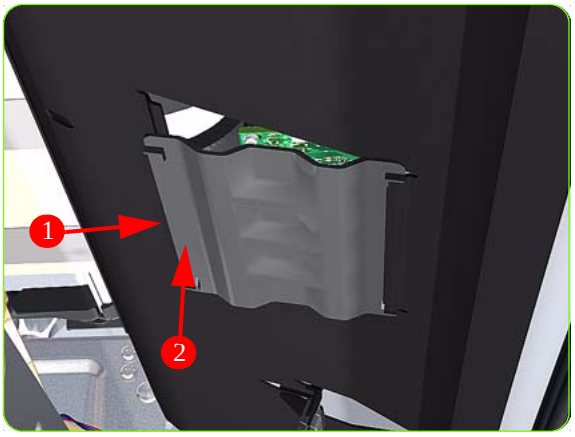
7. Insert the T-20 thin bladed torx screwdriver into the access hole at the rear of the printer.



8. Fully tighten the T-20 horizontal attachment screw which secures the OMAS to the printer.



9. Clip the Media Sensor to the Center Guide.



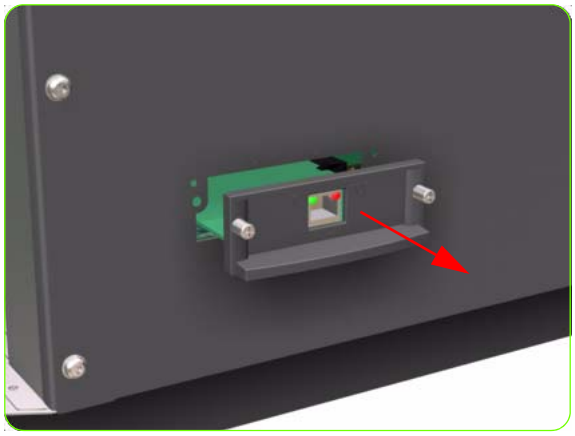

10. Clip the OMAS access cover back into place by sliding one edge of the cover into the slot and then applying enough pressure to it so you can clip it into the other slot.
11. Calibrate the OMAS ⇒ See page 167.
12. If the calibration fails, repeat the procedure from step 4 above to ensure it is correctly positioned.

# Interconnect PCA

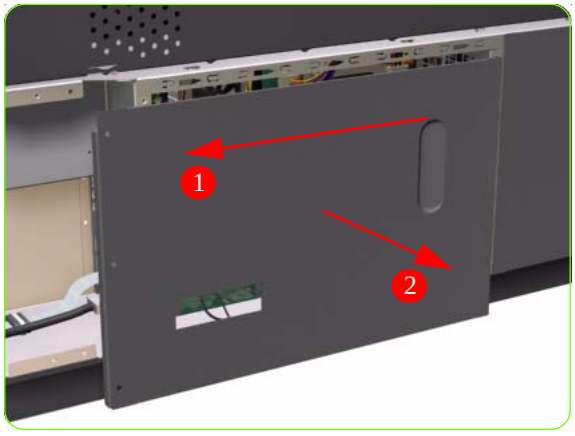
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Connector Cover ⇒ See page 285.
2. Remove the JetDirect Card (if installed).

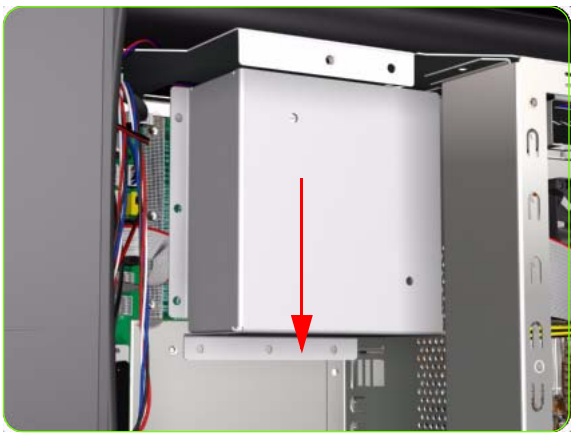


3. Remove three T-15 screws (**Type A**) that secure the Main PCA cover.




4. Remove the Main PCA Cover from the Printer.

5. Remove six T-10 screws (**Type I**) that secure the Interconnect PCA Cover.



6. Remove the Interconnect PCA Cover from the Printer.

7. Disconnect ALL cables from the Interconnect PCA.

8. Remove five T-10 screws (**Type I**) that secure the Interconnect PCA.

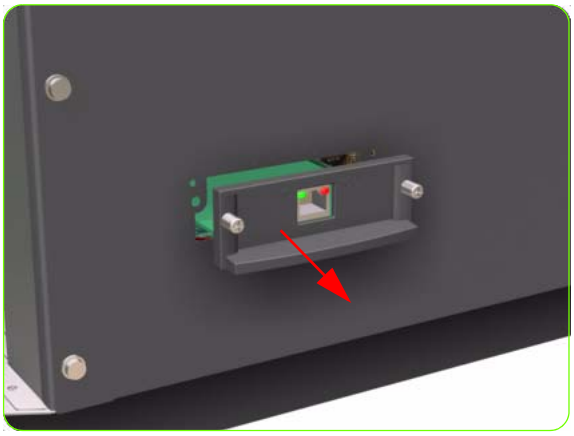
9. Remove the Interconnect PCA from the Printer.

# EIO to PCA Interface Card

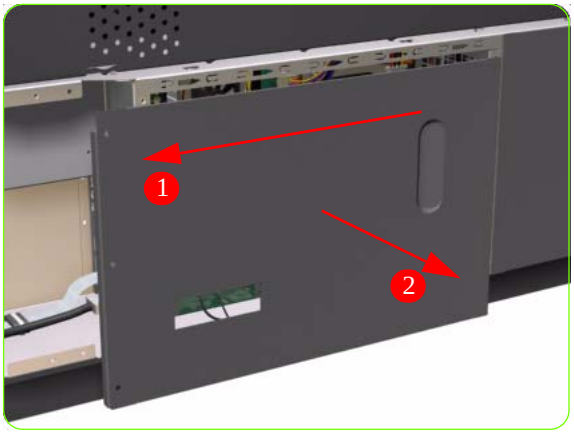
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Connector Cover ⇒ See page 285.
2. Remove the JetDirect Card (if installed).

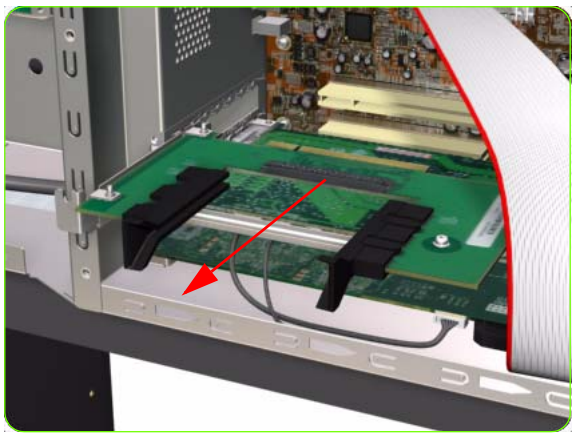


3. Remove three T-15 screws (**Type A**) that secure the Main PCA cover.




4. Remove the Main PCA Cover from the Printer.

5. Remove one T-10 screw (**Type I**) that secures the Interface Card.



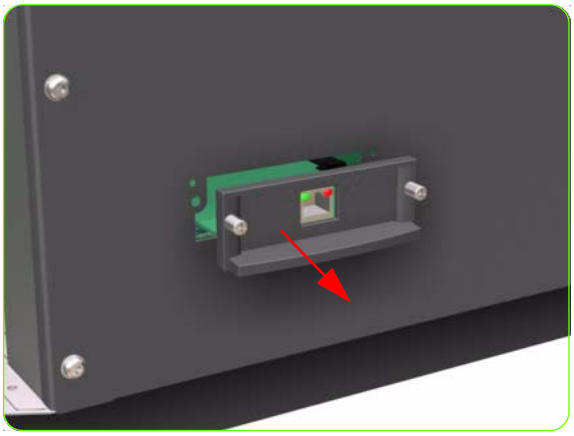
6. Disconnect the Interface Card from the Main PCA and remove from the Printer.

# OMAS Controller Card

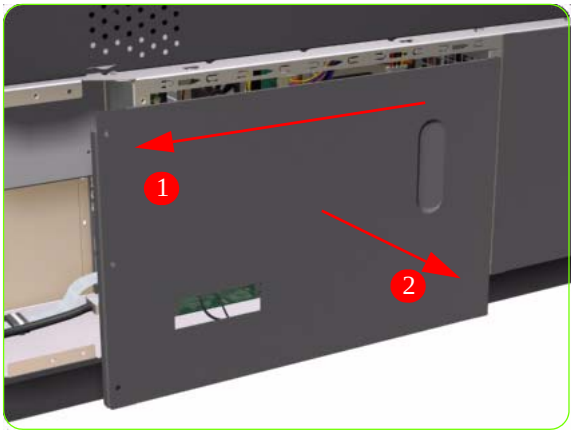
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

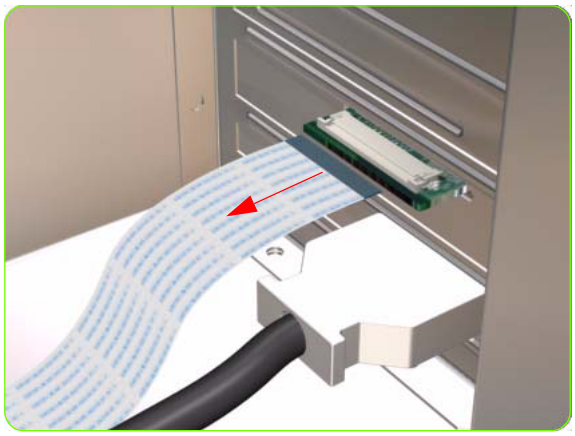
1. Remove the Right Connector Cover ⇒ See page 285.
2. Remove the JetDirect Card (if installed).



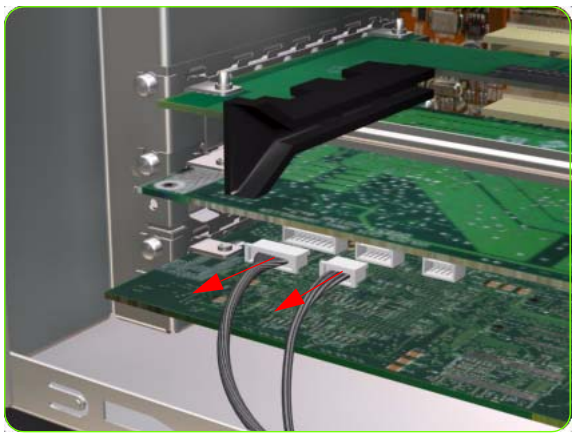
3. Remove three T-15 screws (**Type A**) that secure the Main PCA cover.



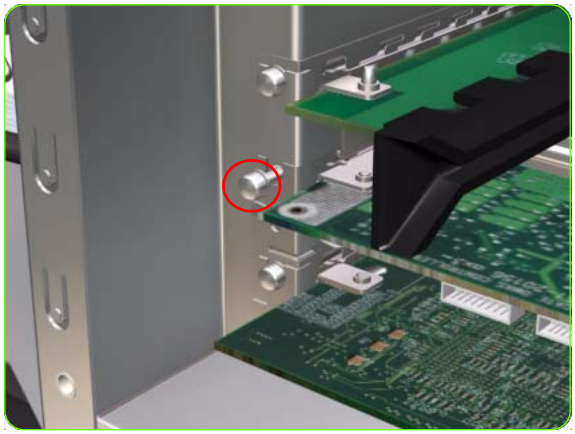

4. Remove the Main PCA Cover from the Printer.



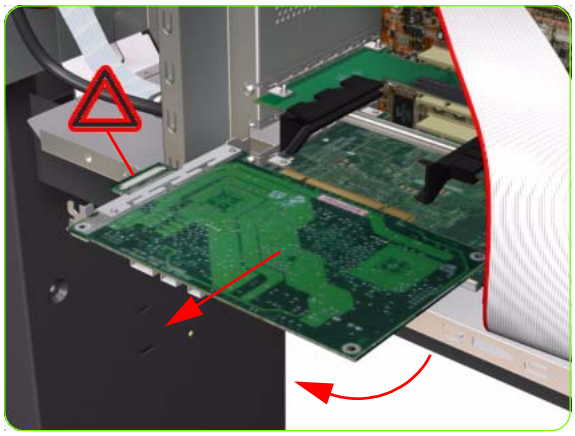
5. Disconnect the OMAS Controller Card to OMAS ribbon cable.



6. Disconnect the OMAS Controller Card to PrintMech and Sausalito PCI connection cables.



7. Remove one T-10 screw (**Type I**) that secures the OMAS Controller Card.



8. Disconnect the OMAS Controller Card from the Main PCA and remove from the Printer.

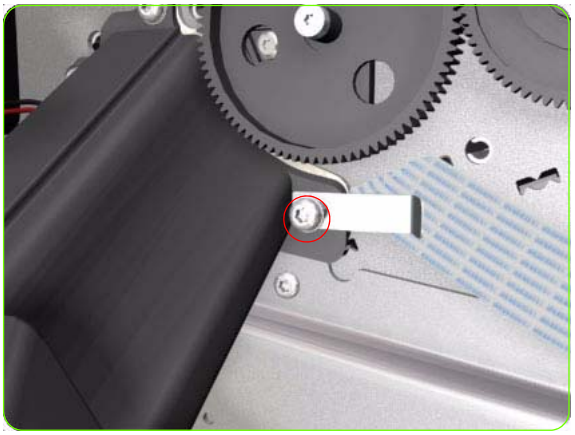
△ **CAUTION:** To remove the OMAS Controller Card without damaging it on the Emodule cover, you will need disconnect it first and then rotate it slightly in the direction indicated.

# OMAS Cable

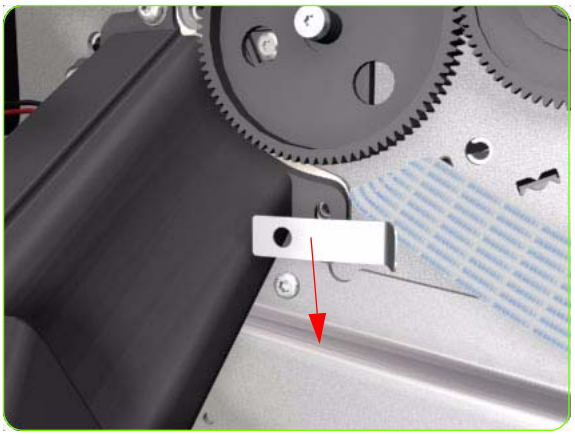
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

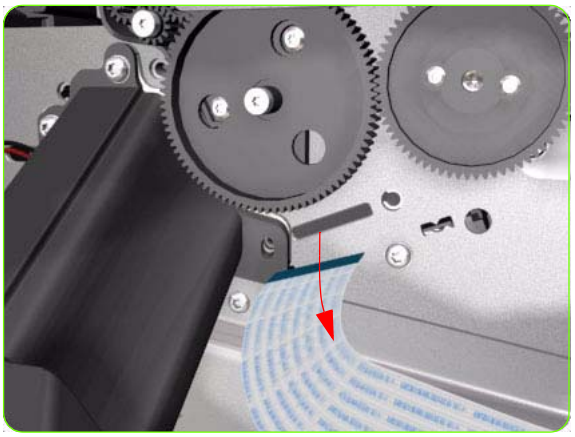
1. Remove the Right Cover ⇒ See page 264.
2. Remove the Right Connector Cover ⇒ See page 285.
3. Remove the Service Station ⇒ See page 300.
4. Remove the OMAS ⇒ See page 351.
5. Remove one T-15 screw that secures the OMAS Cable clamp from the printer.

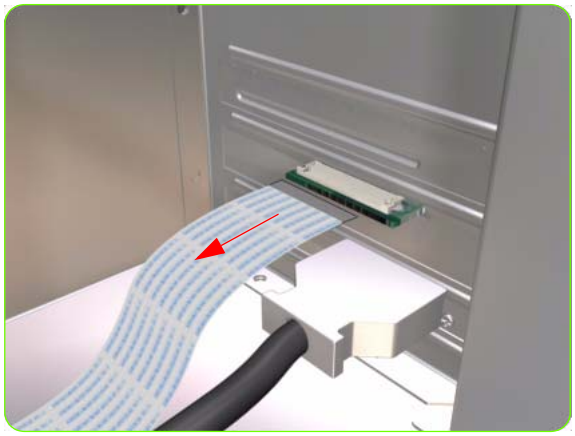


6. Remove the OMAS Cable clamp from the printer.

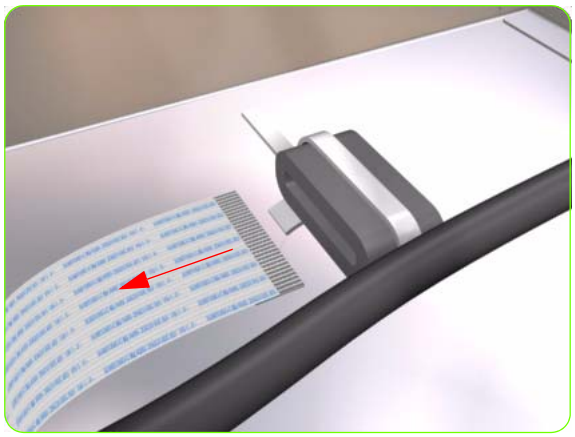


7. Carefully Pull the OMAS Cable out of the Vacuum Beam.

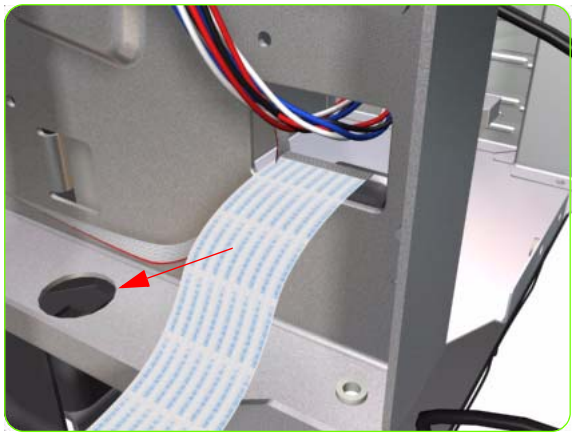




8. Disconnect the OMAS Cable form the OMAS Controller Card.



9. Unroute the OMAS Cable from the Ferrite Core.

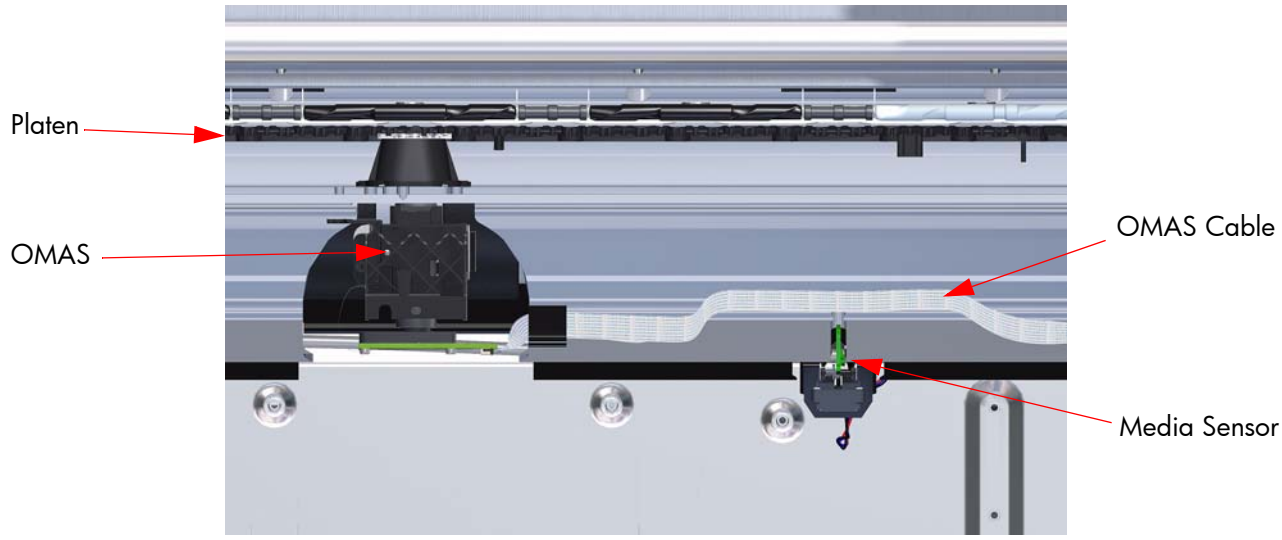


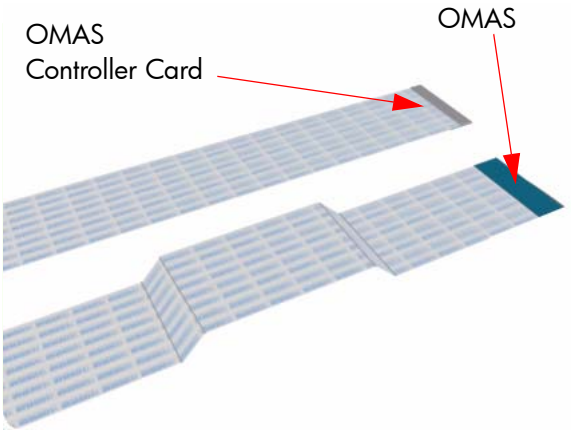
10. Unroute and remove the OMAS Cable from the Printer.

# Installation

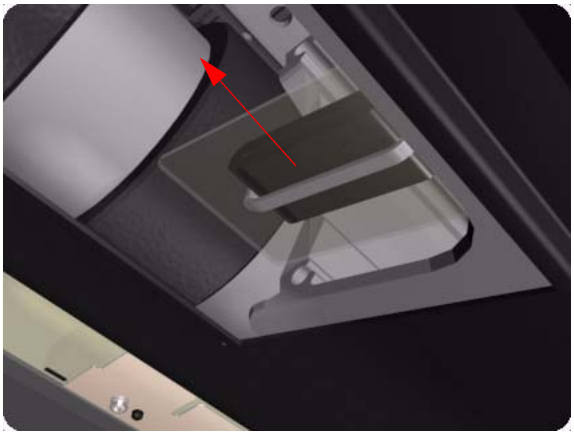
**CAUTION:** It is critical that the OMAS Cable is correctly positioned in the Vacuum Beam so that it does not cause physical interference to the Media Sensor.

The following illustration shows a cross-section of the Vacuum Beam with the OMAS Cable correctly routed to avoid interference to the Media Sensor.

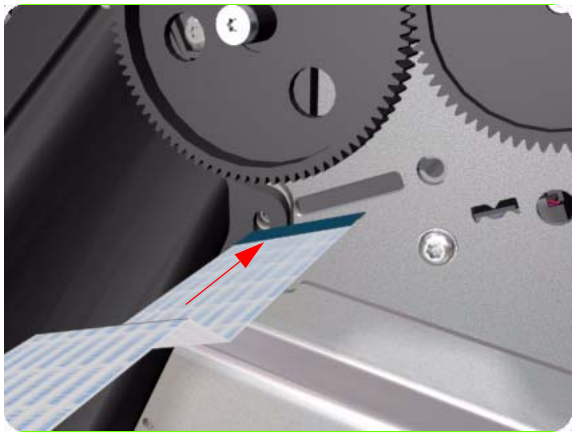



1. Before you can start to install the OMAS Cable you must first identify which end connects to which component. The end of the cable that has the most perpendicular and diagonal folds is the end that connects to the OMAS with the blue reinforcing on the top. The other end must be connected to the OMAS Controller Card with the blue reinforcing on the bottom.

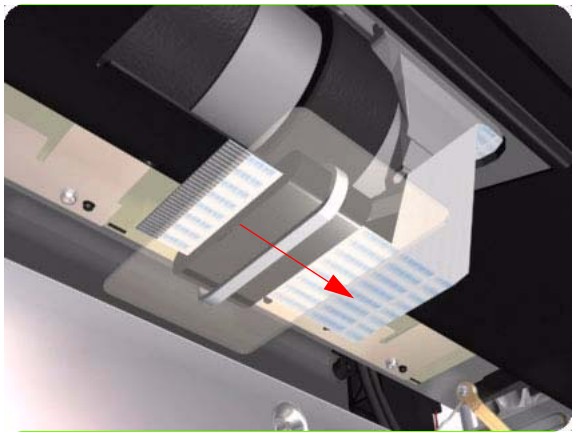


1. Carefully slide the Ferrite Core and its associated attachment plate out of the vacuum beam.

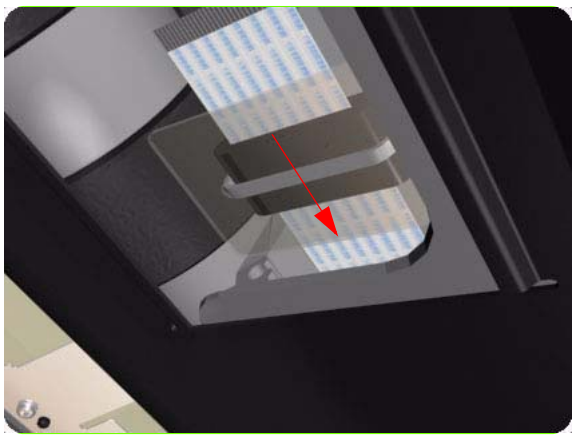


2. Position the OMAS Cable in the Vacuum Beam slot so that the blue reinforcement enters first.

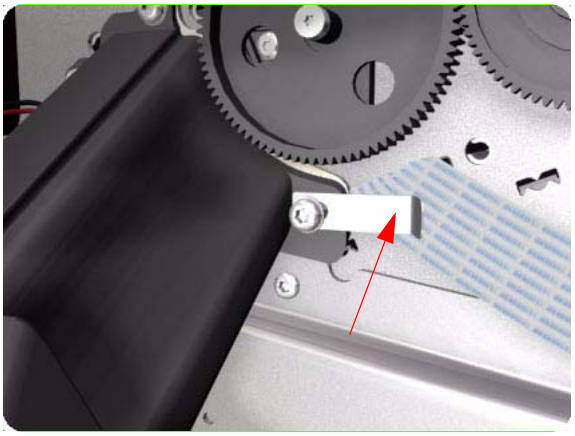
3. Carefully feed the OMAS cable through the Vacuum Beam sufficiently to have approximately 20 cm hanging from the OMAS installation position.



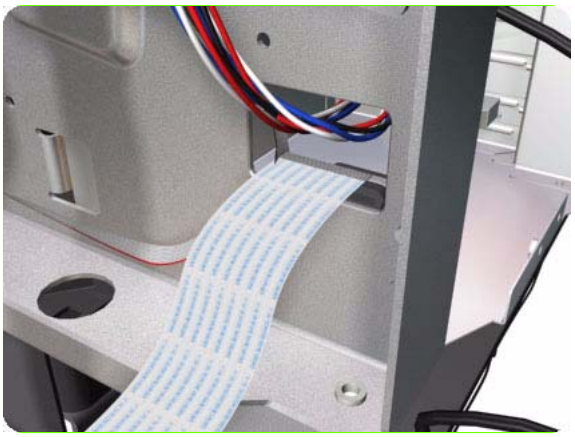
4. Slide the Ferrite Core and its associated Attachment Plate (on the top) onto the OMAS Cable.



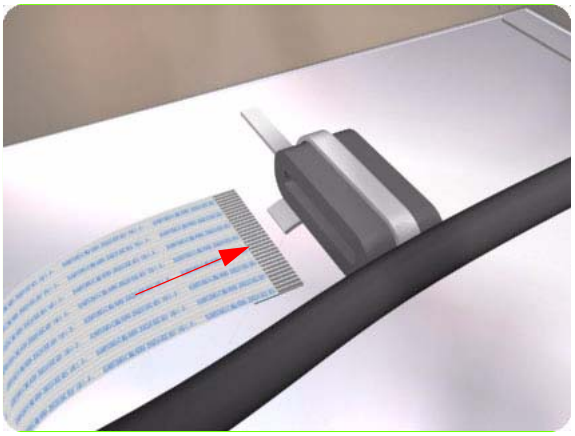
5. Push the Attachment Plate into its slot in the Vacuum beam until it is level with the edge of OMAS installation position.



6. Carefully pull the OMAS Cable back into the Vacuum Beam (from the Service Station end) until the straight fold immediately before the first diagonal fold (from the OMAS sensor end) is aligned with the slot, fold the OMAS Cable across the diagonal fold, and install the cable clamp to lock the OMAS Cable in the correct position.



7. Route the OMAS Cable to the Ferrite Core in the Right Interconnect panel.



8. Feed the OMAS Cable through Ferrite Core.

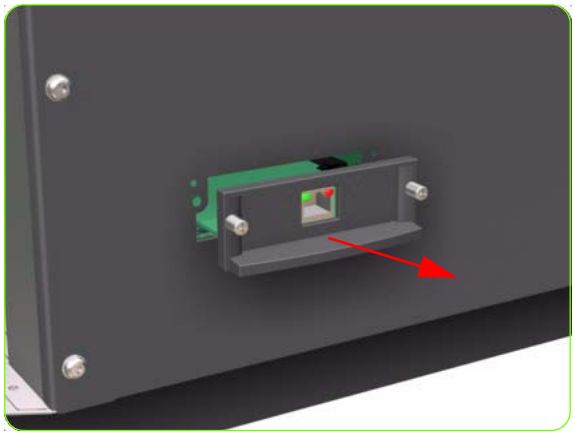
9. Connect the OMAS Cable to the OMAS Controller Card with the connections on the top.

# Sausalito PCI PCA

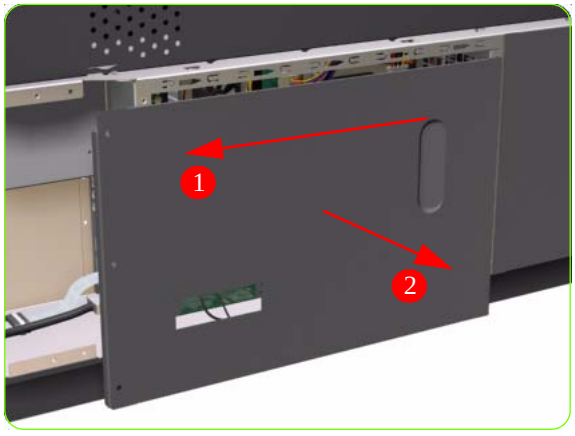
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

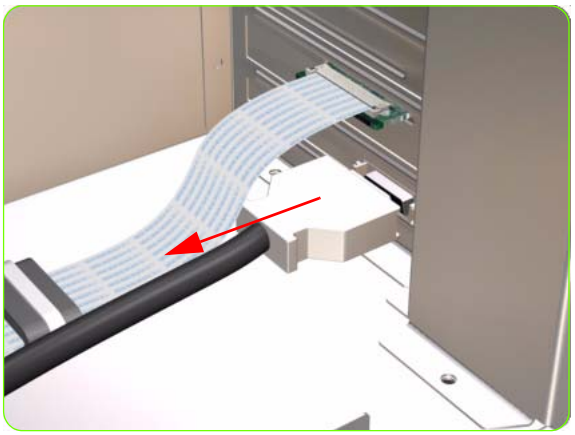
1. Remove the Right Connector Cover ⇒ See page 285.
2. Remove the JetDirect Card (if installed).



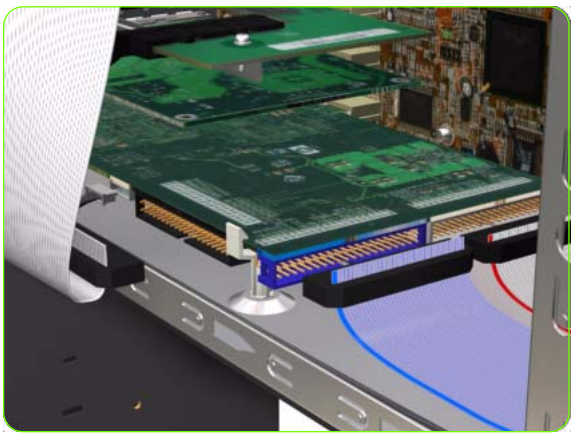
3. Remove three T-15 screws (**Type A**) that secure the Main PCA cover.




4. Remove the Main PCA Cover from the Printer.

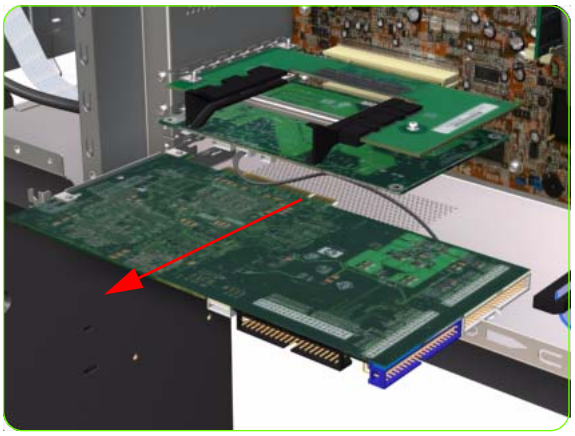


5. Disconnect the Trailing Cable from the Sausalito PCI PCA.



6. Disconnect ALL cables connected to the Sausalito PCI PCA.

7. Remove one T-10 screw (**Type I**) that secures the Sausalito PCI PCA.



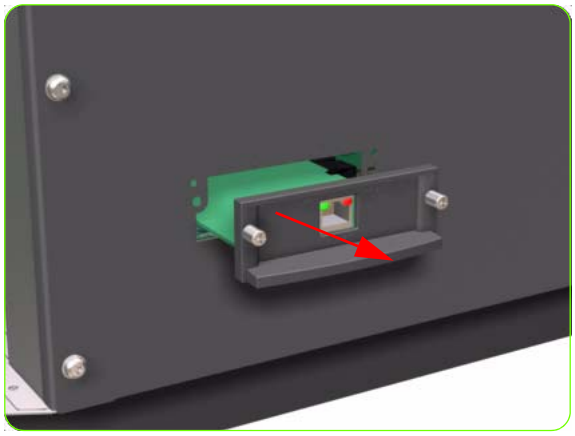
8. Disconnect the Sausalito PCI PCA from the Main PCA, unclip it, and remove it from the Printer.

# CPU Fan

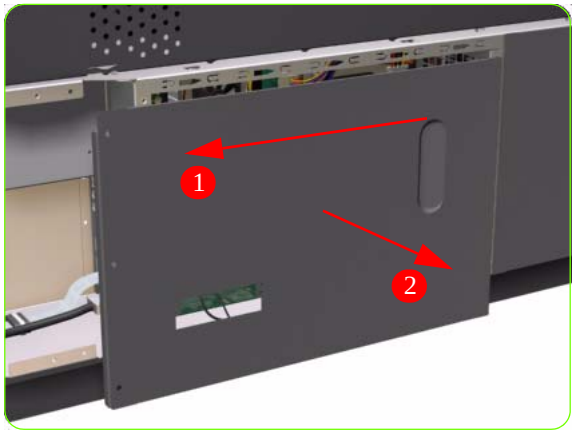
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

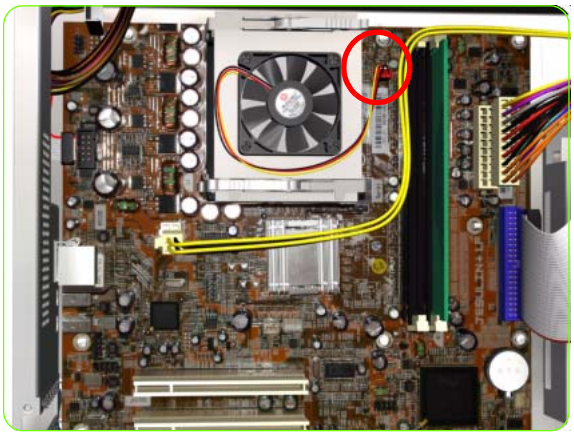
1. Remove the Right Connector Cover ⇒ See page 285.
2. Remove the JetDirect Card (if installed).



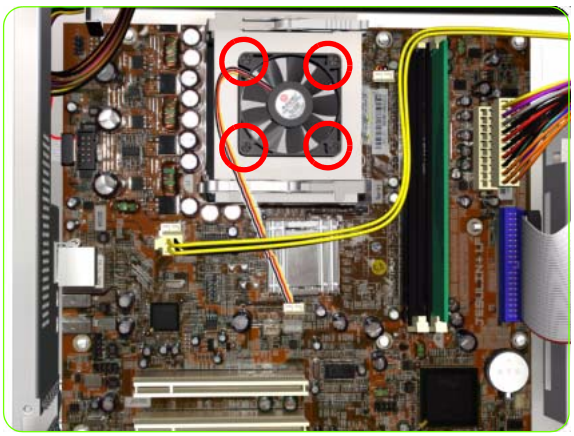
3. Remove three T-15 screws (**Type A**) that secure the Main PCA cover.




4. Remove the Main PCA Cover from the Printer.

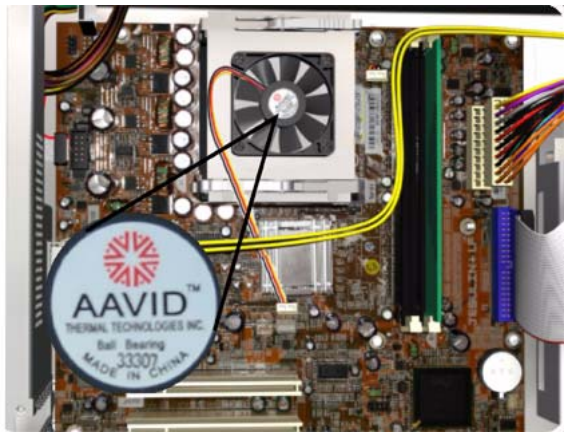


5. Disconnect the CPU Fan Cable from the Formatter PCA.

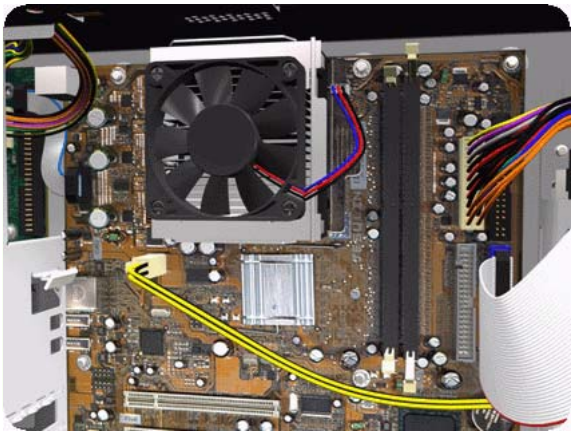


6. Remove four cross-head screws from the CPU Fan and remove the CPU Fan.

## Installation




1. When installing the new CPU Fan it is important to ensure the correct orientation of the CPU Fan. There are two manufactures of fan available:
   - AAVID Fans - AAVID Labels faces outwards when it is installed correctly.



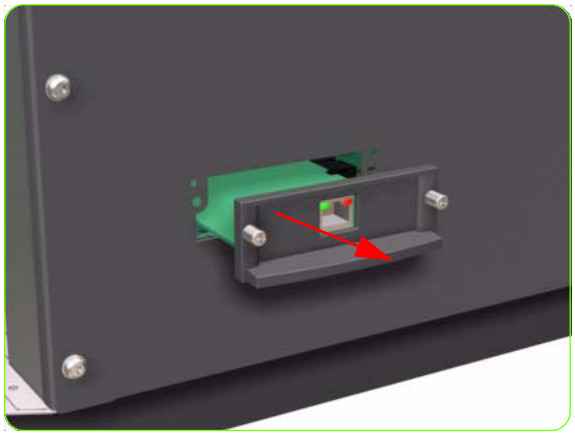
   - Delta Fans - CE Label faces inwards, towards the printer when it is installed correctly.

# Memory Module

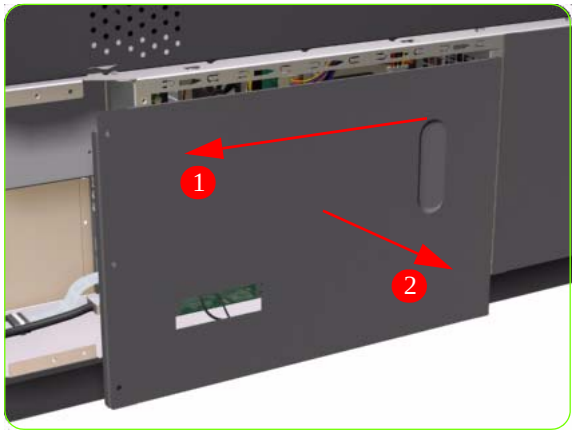
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

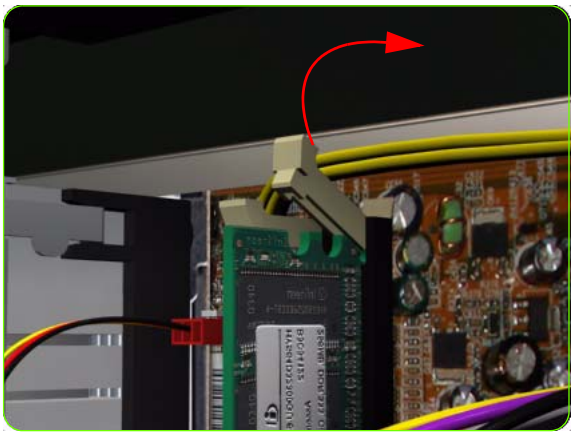
1. Remove the Right Connector Cover ⇒ See page 285.
2. Remove the JetDirect Card (if installed).



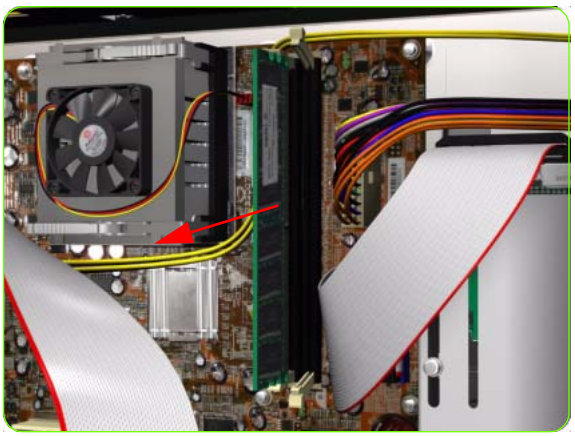
3. Remove three T-15 screws (**Type A**) that secure the Main PCA cover.




4. Remove the Main PCA Cover from the Printer.



5. Push the Memory Module Connector clips up and down to release the Memory Module.



6. Remove the Memory Module from the Printer.

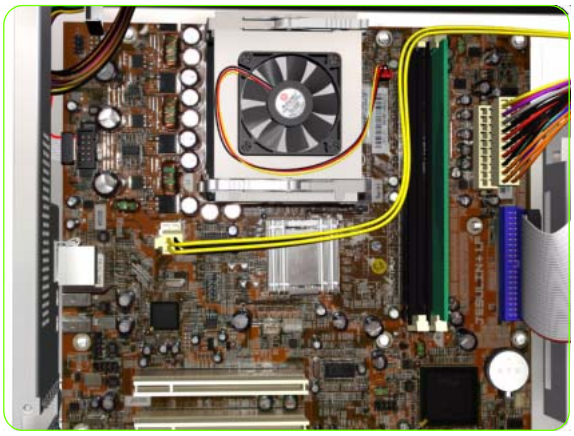
# Main PCA Formatter

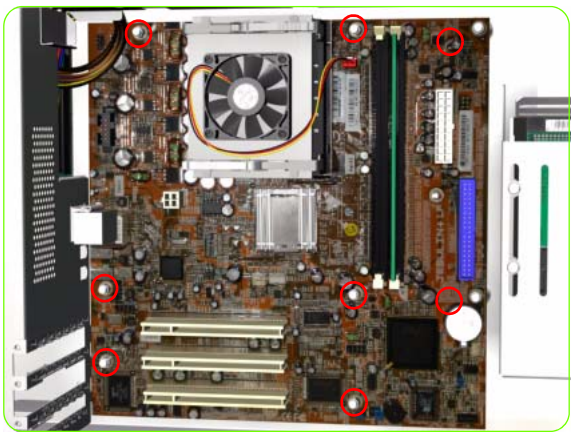
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

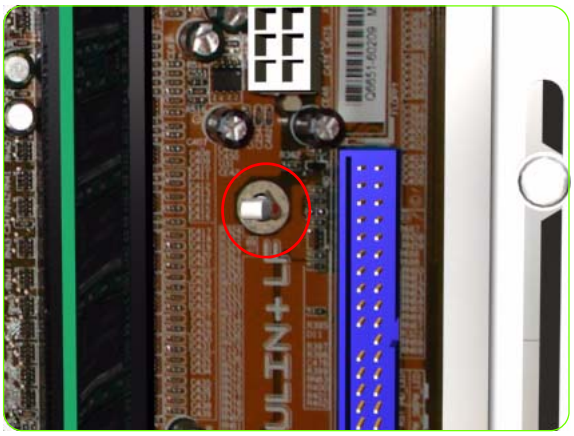
**CAUTION:** Do NOT remove the Fan or the Processor (located under the Fan) from the Main PCA Formatter - The Fan and the Processor are part of the Main PCA Formatter support part and should be replaced as one assembly.

1. Remove the EIO to PCI Interface Card ⇒ See page 360.
2. Remove the Sausalito PCI PCA ⇒ See page 369.
3. Remove the Memory Module ⇒ See page 373.
4. Disconnect ALL cables connected to the Main PCA Formatter.

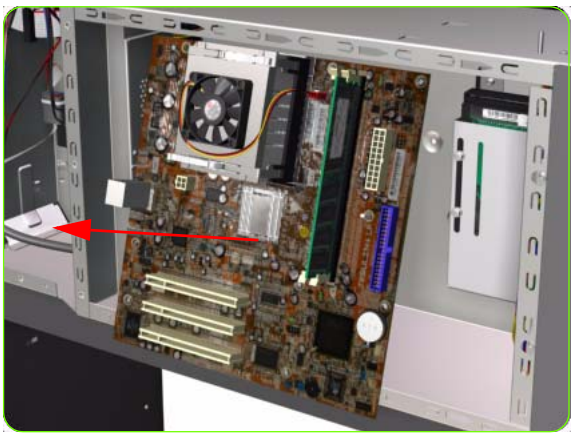




5. Remove eight T-10 screws (**Type I**) that secure the Main PCA Formatter.



6. Release the plastic locating pin that secures the Main PCA Formatter.



7. Remove the Main PCA Formatter from the Printer.

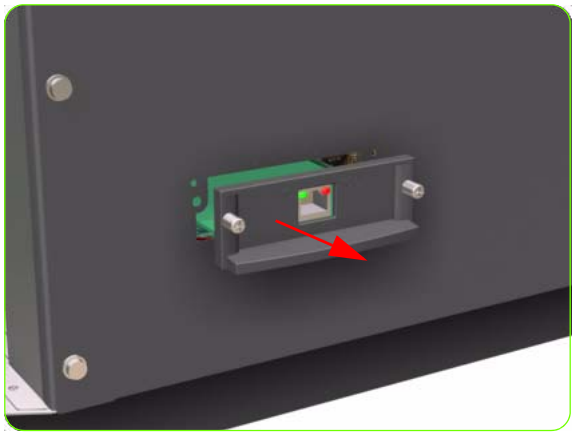
**NOTE:** When installing the Main PCA Formatter, make sure that you first locate it on the plastic locating pin and then install the screws.

# Hard Disk Drive (HDD)

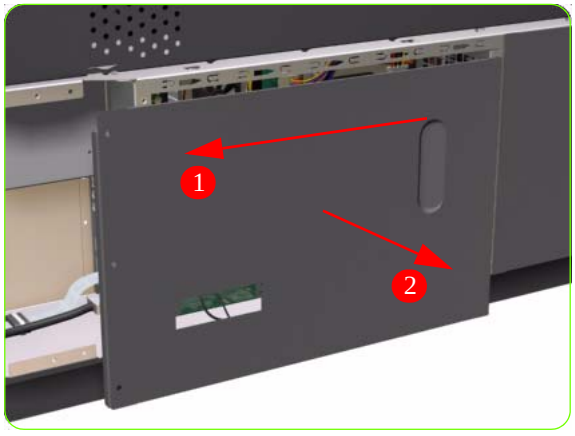
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

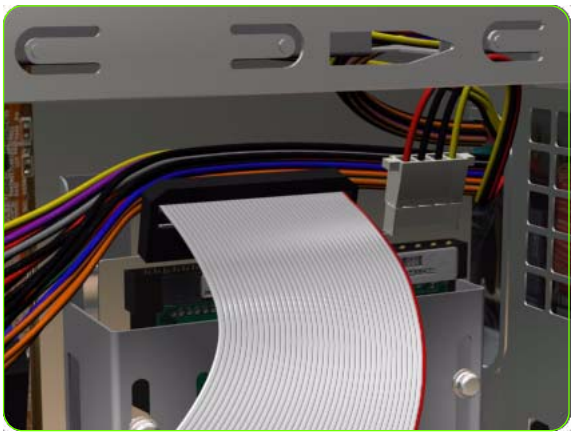
1. Remove the Right Connector Cover ⇒ See page 285.
2. Remove the JetDirect Card (if installed).



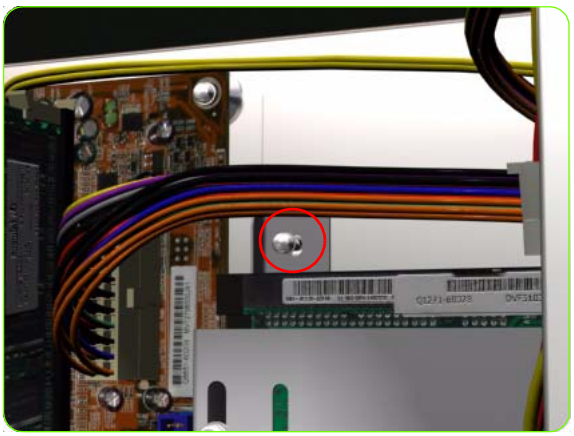
3. Remove three T-15 screws (**Type A**) that secure the Main PCA cover.



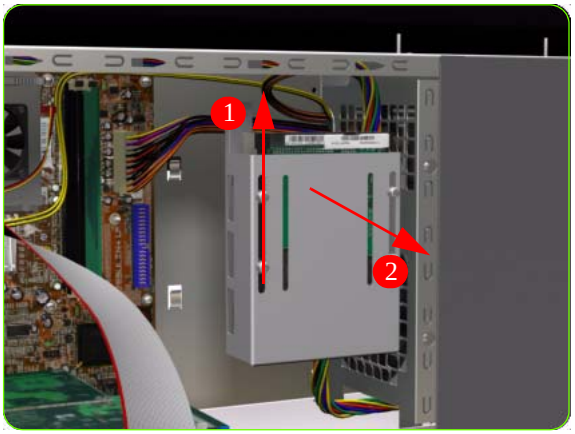

4. Remove the Main PCA Cover from the Printer.



5. Disconnect ALL cables connected to the Hard Disk Drive.



6. Remove one T-10 screw (**Type I**) from the HDD Holder.




7. Slide the Hard Disk Drive upwards and remove from the Printer.

**NOTE:** It is not necessary to remove the screws securing the HDD inside the metal casing.

**NOTE:** After installing the NEW HDD, make sure you perform the following User Calibrations:

- Printhead Alignment.
- Paper Advance Calibration.
- Color Calibration.

**NOTE:** After installing the NEW HDD, make sure you perform the following Service Utility:

- Carriage PCA Setup ⇒ Chapter 4.

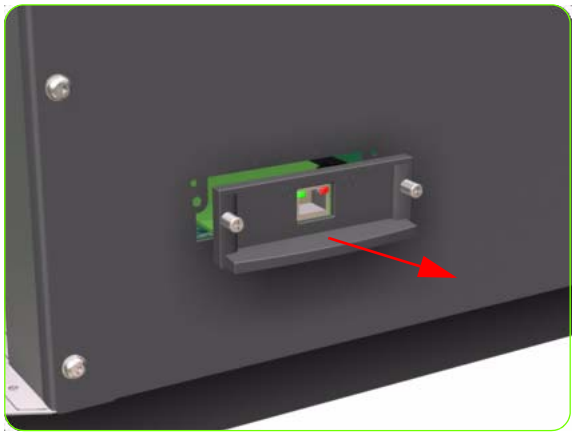
**NOTE:** You MUST NEVER replace both the Hard Disk Drive and the Ink Supply Tubes and Trailing Cable at the same time. If both parts need to replaced, you MUST first replace one part and then power ON the Printer until it completely initializes. Then you can power OFF the Printer and replace the other part.

# Power Supply Unit (PSU)

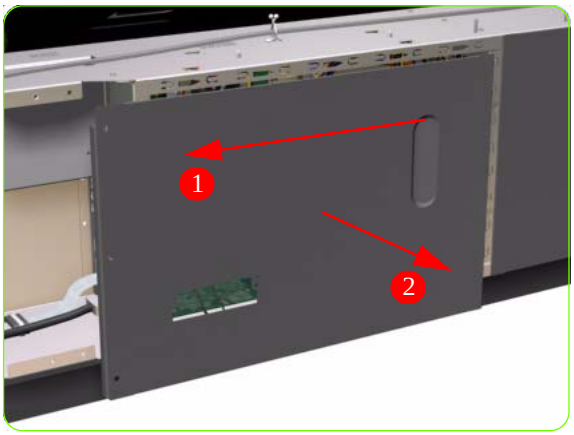
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

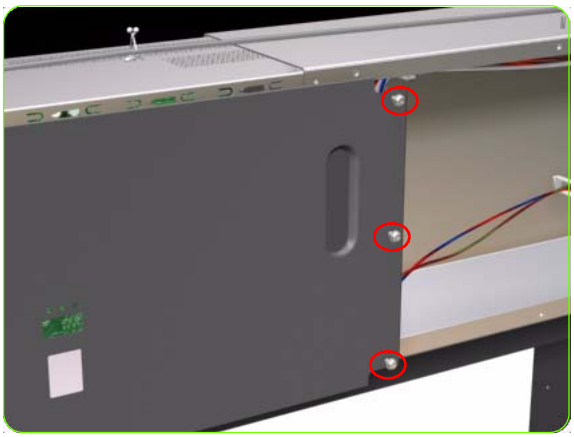
1. Remove the Left Cover ⇒ See page 270.
1. Remove the Right Connector Cover ⇒ See page 281.
2. Remove:
   - For the 42-inch model, the Left Connector Cover ⇒ See page 287.
   - For the 60-inch model, the Electronics Module Extension⇒ See page 288.
3. Remove the JetDirect Card (if installed).



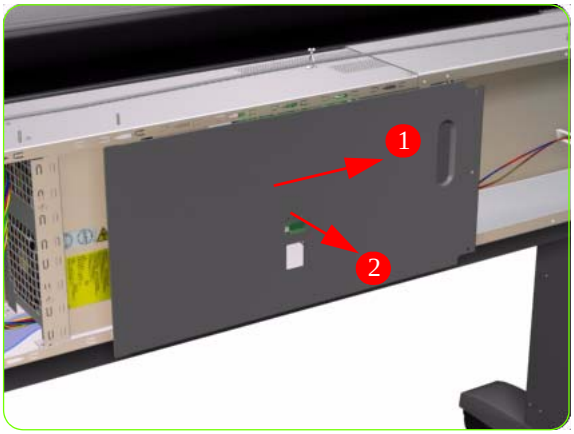
4. Remove three T-15 screws (**Type A**) that secure the Main PCA cover.



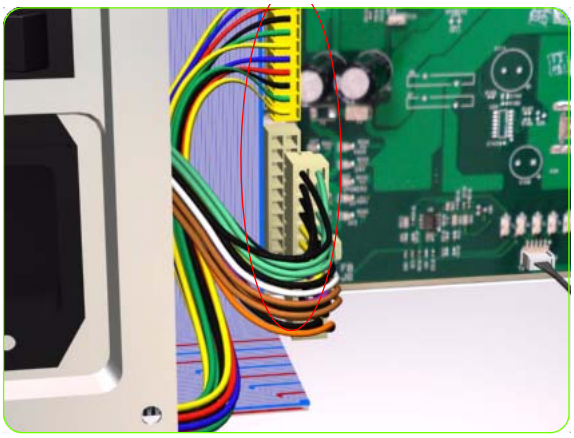

5. Remove the Main PCA Cover from the Printer.



6. Remove three T-15 screws (**Type A**) that secure the PSU cover.




7. Remove the PSU Cover from the Printer.

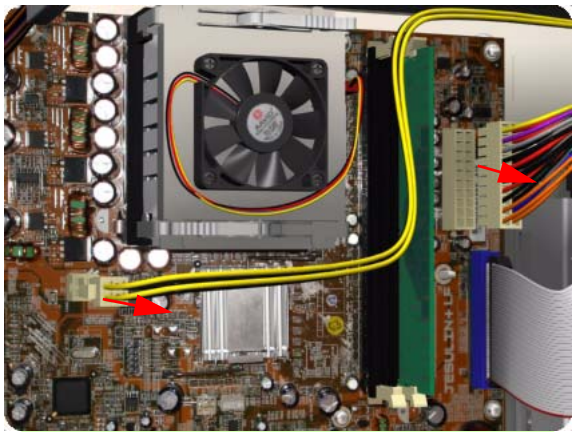


8. Disconnect the Power Supply and Interconnect cables from the PrintMech PCA.

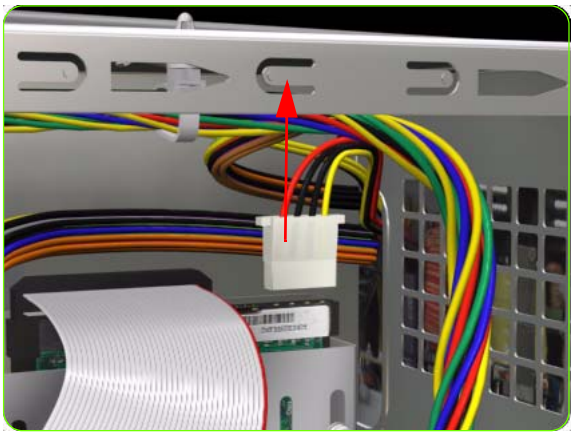
9. Remove six T-10 screws (**Type I**) that secure the Interconnect PCA Cover.

10. Remove the Interconnect PCA Cover from the Printer.

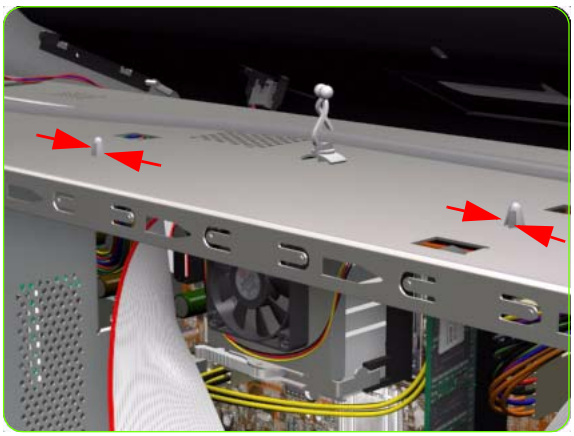
11. Disconnect one cable from the Interconnect PCA.



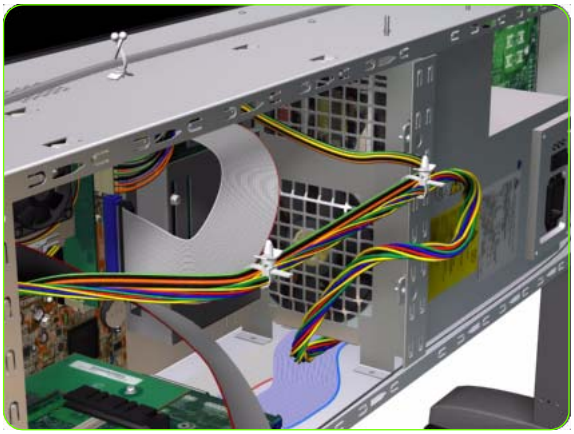
12. Disconnect two power supply cables from the Main PCA.



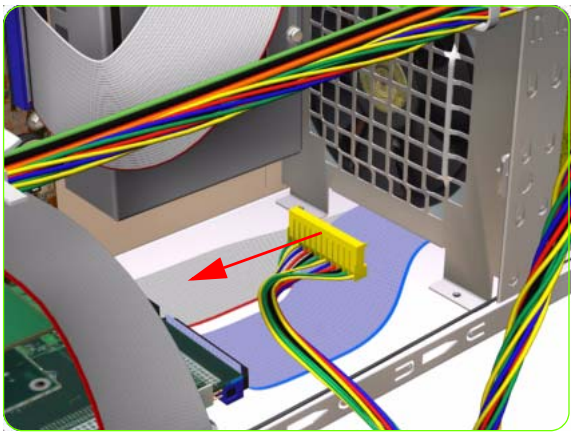
13. Disconnect one cable from Hard Disk Drive.



14. Squeeze both Cable Clamps to release from the Electronics Module.

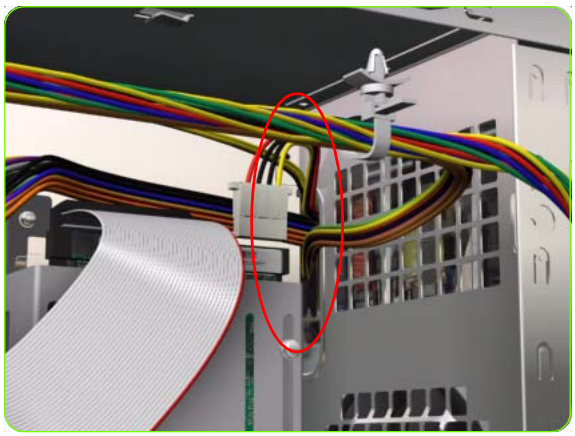


15. Lower the cables out of the way.

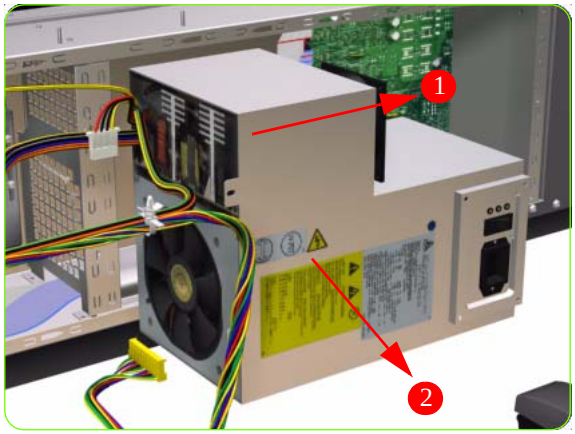


16. Unroute the Interconnect Cables disconnected in step 8 from below the Power Supply Unit.

17. Remove four T-10 screws (**Type I**) that secure the Power Supply Unit.



18. Route the cables through the hole in the Electronics Module.



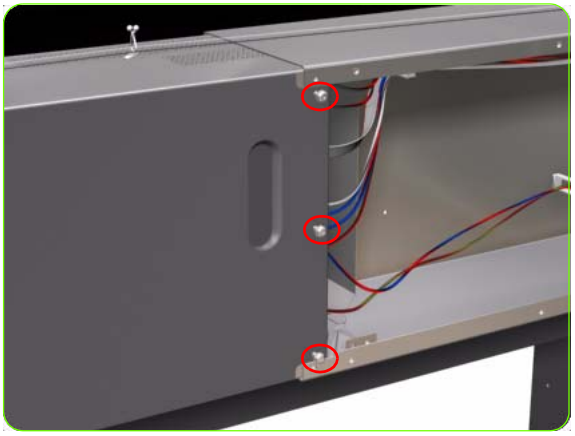

19. Remove the Power Supply Unit from the Printer.

# PrintMech PCA

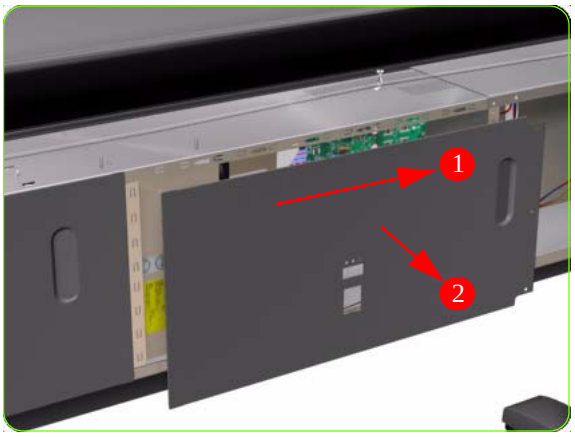
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

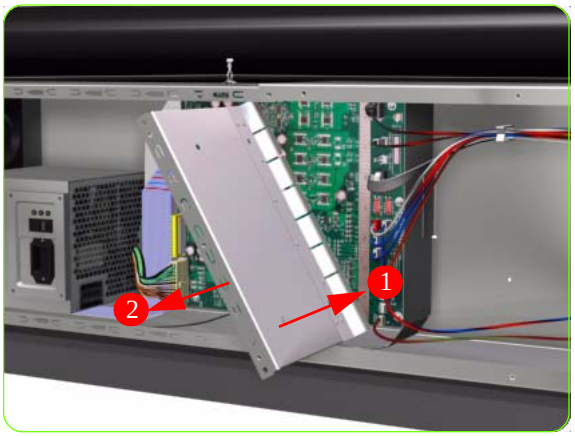
1. Remove:
   - For the 42-inch model, the Left Connector Cover ⇒ See page 287.
   - For the 60-inch model, the Electronics Module Extension⇒ See page 288.
2. Remove three T-15 screws (**Type A**) that secure the PSU cover.

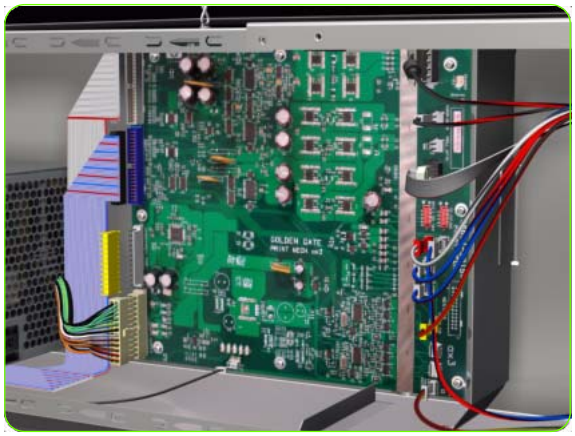


3. Remove the PSU Cover from the Printer.




4. Slide the PrintMech Cover out of the Printer.





5. Disconnect ALL cables from the PrintMech PCA.

6. Remove eight T-10 screws (**Type I**) that secure the PrintMech PCA.

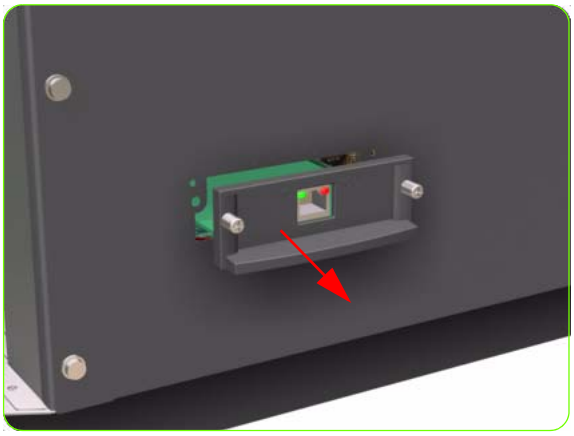
7. Remove the PrintMech PCA from the Printer.

# Formatter Battery

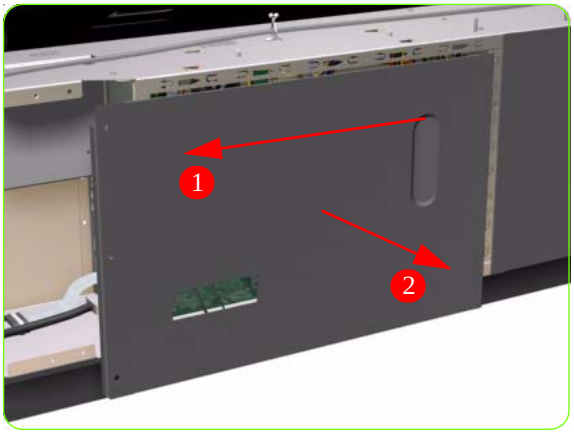
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

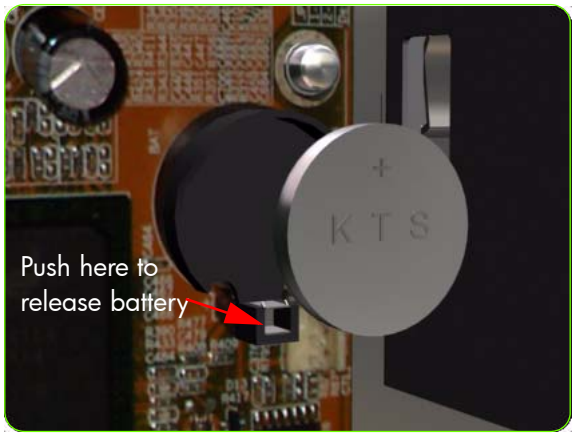
1. Remove the Right Connector Cover ⇒ See page 285.
2. Remove the JetDirect Card (if installed).



3. Remove three T-15 screws (**Type A**) that secure the Main PCA cover.




4. Remove the Main PCA Cover from the Printer.



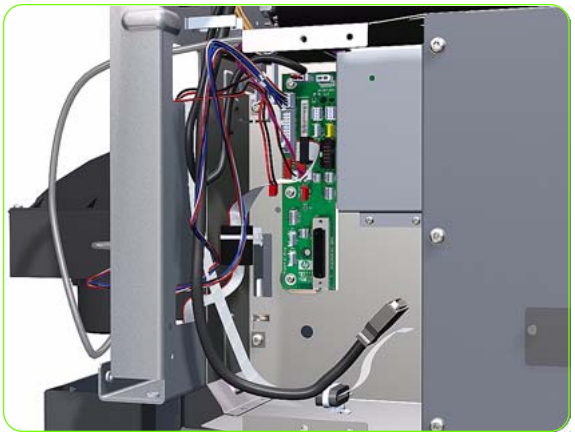

5. Push the clip down and release the battery from the Main PCA.

# Electronics Module

## Removal

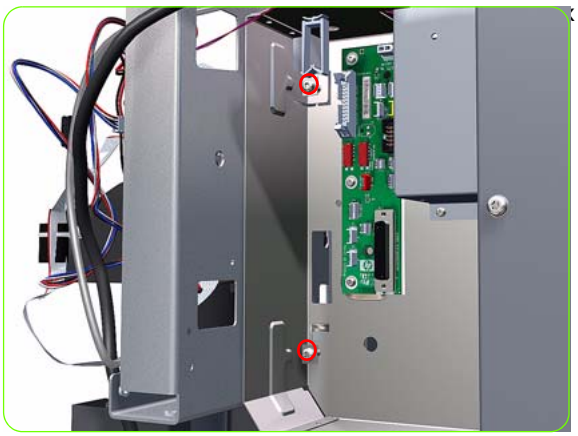
**WARNING!:** Switch off the printer and remove the power cable.

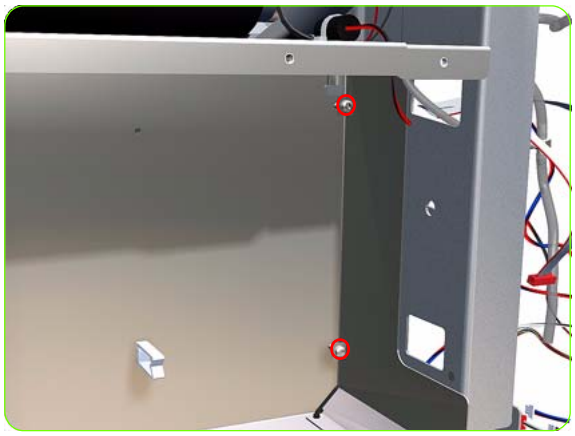
1. Remove the Right Connector Cover ⇒ See page 285.
2. Remove the Left Connector Cover:
   - For the 42-inch model ⇒ See page 287.
   - For the 60-inch model ⇒ See page 288.
3. Disconnect ALL the cables connected to the right Interconnect PCA and the Sausalito PCI PCA.



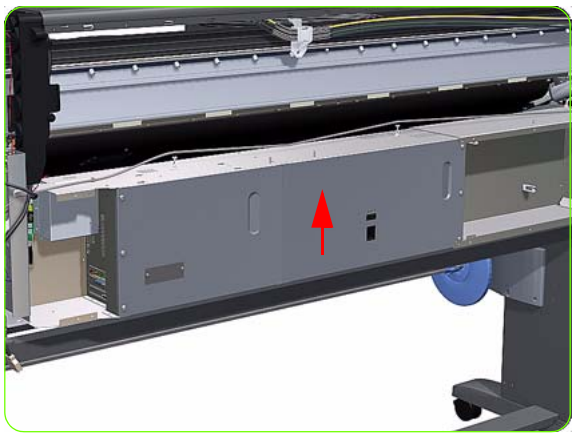
4. Unroute all the disconnected cables so they are clear of the Electronics Module.

5. Remove two T-20 screws (**Type B**) that secure the right side Electronics Module.

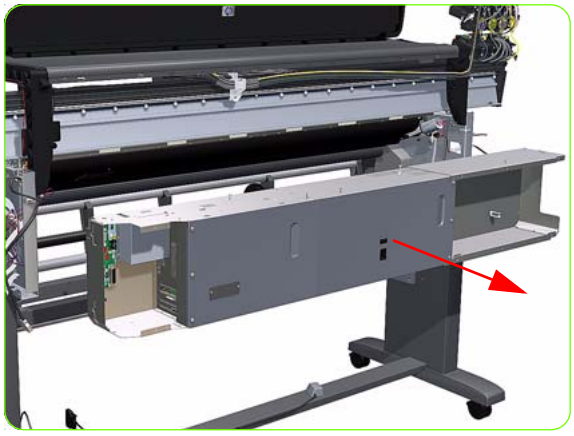




6. Remove two T-20 screws (**Type B**) that secure the left side Electronics Module.



7. Lift the Electronics Module sufficiently (approximately 2 cm) to release it from the attachments.



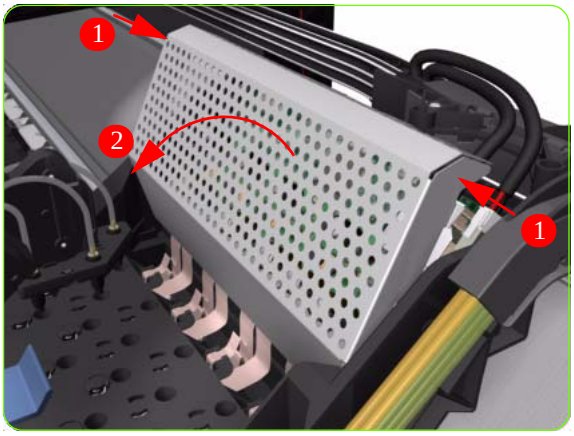
8. Remove the Electronics Module from the Printer.
9.

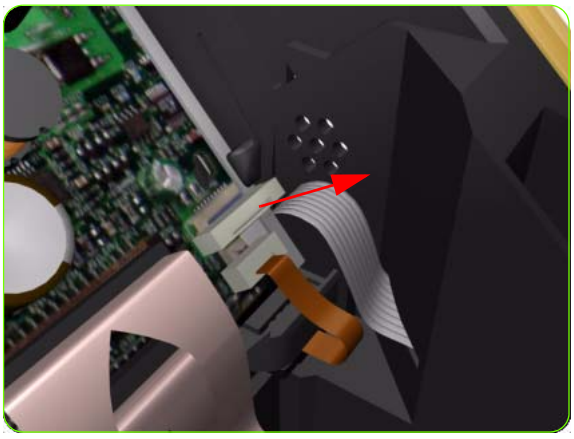
# Line Sensor Assembly

## Removal

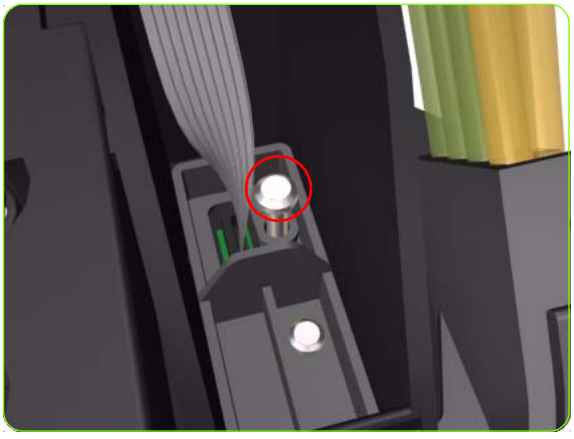
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Cover ⇒ See page 264.
2. Press the two side of the Carriage PCA Cover and unclip from the Carriage Assembly.

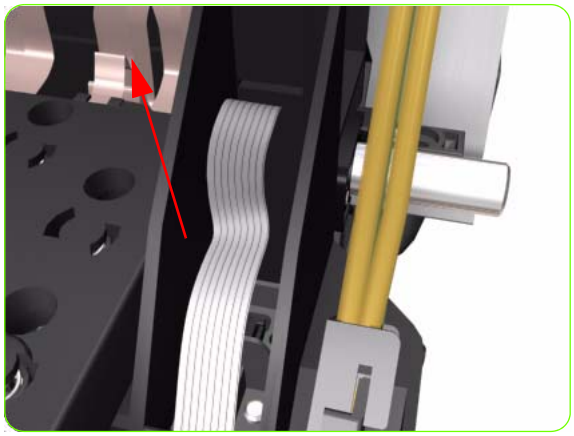


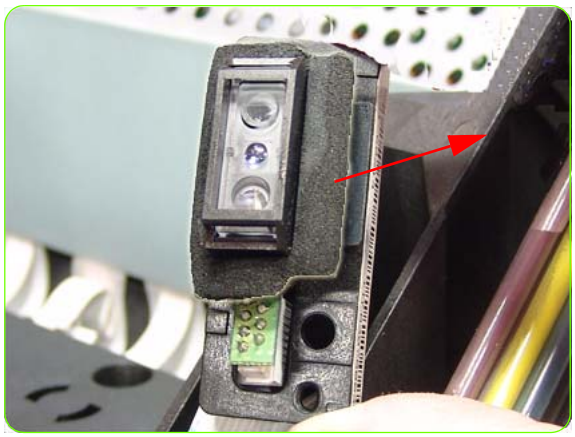
3. Release the clip and disconnect the Line Sensor cable from the Carriage PCA.



4. Remove one T-15 screw (**Type G**) that secures the Line Sensor to the carriage Assembly.



5. Remove the Line Sensor from the Carriage Assembly.



6. Remove the protective foam from around the sensor.

**NOTE:** After installing the NEW Line Sensor, make sure you perform the following Service Calibrations:

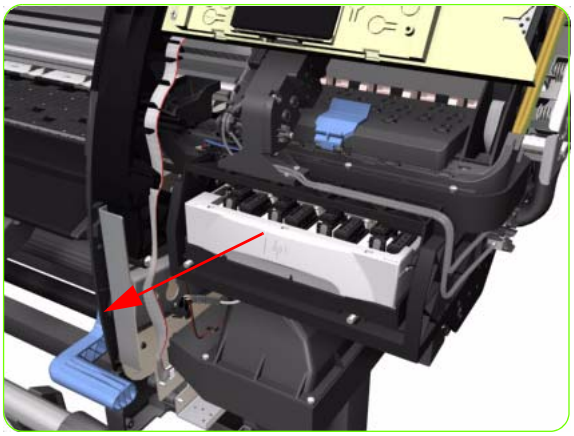
- Line Sensor Calibration ⇒ Chapter 5.

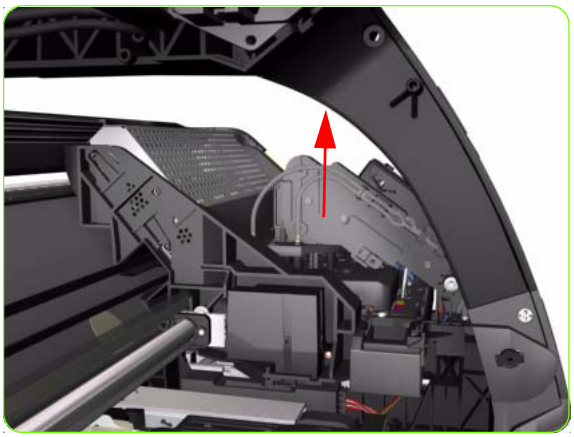
# Color Sensor Assembly

## Removal

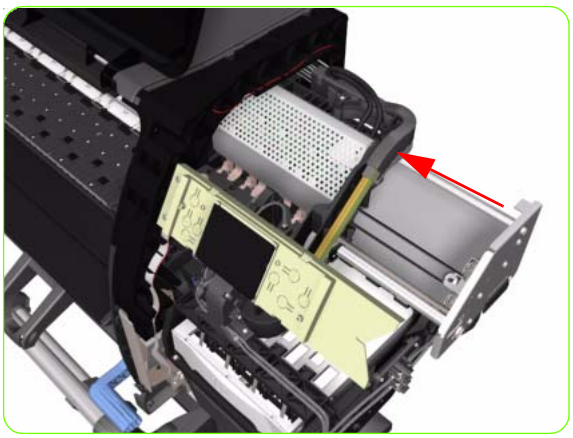
**WARNING!:** Switch off the printer and remove the power cable.

1. Open the Window.
2. Remove the Right Cover ⇒ See page 264.
3. Remove the Left Cover ⇒ See page 270.
4. Uncap the Carriage Assembly by manually pulling out the Printhead Maintenance Cartridges tray.

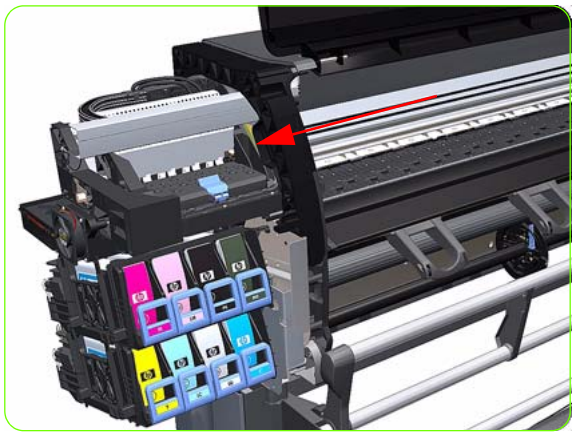




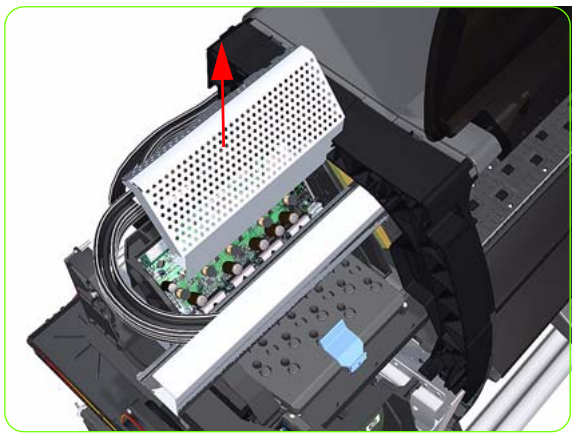
5. Lift the Primer and hold the Primer to its maximum position to avoid damaging it when you move the Carriage Assembly in the next step.



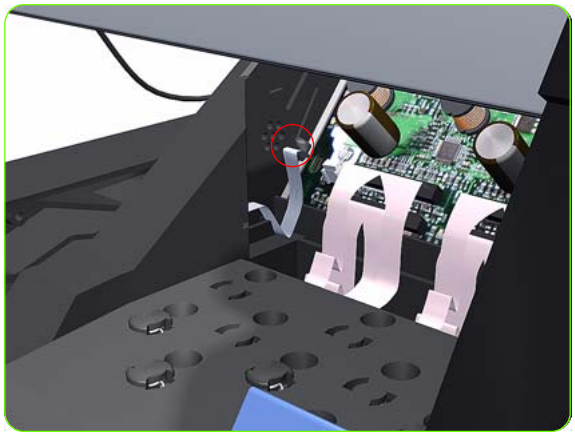
6. Move the Carriage Assembly out of the Service Station.



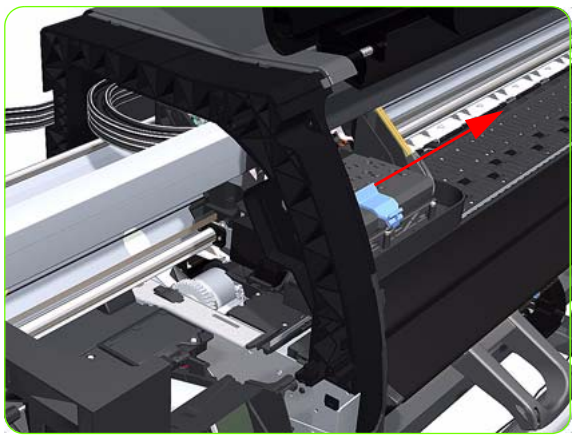
7. Move the Carriage to the fully left position.



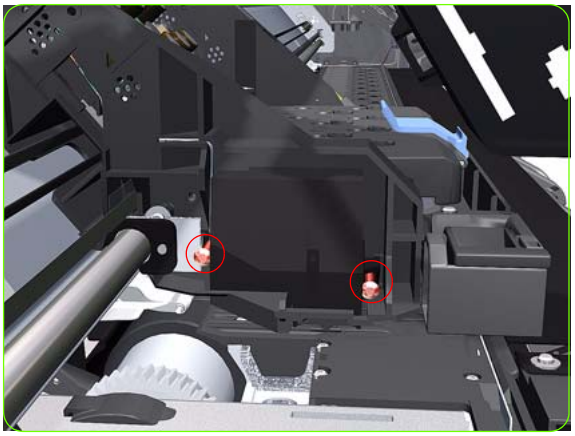
8. Press the two sides of the Carriage PCA Cover, unclip it from the Carriage Assembly and remove it.



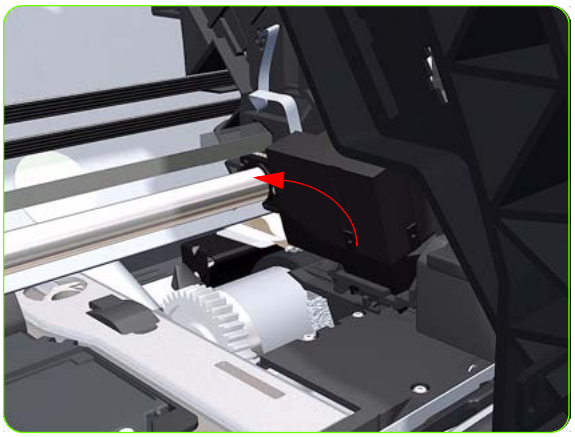
9. Release the clip and disconnect the Color Sensor cable from the Carriage PCA.



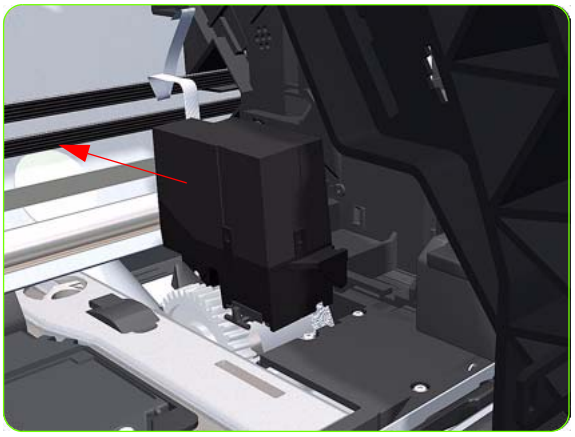
10. Move the carriage sufficiently to the right to gain access the Color Sensor attachment screws.



11. Remove two T-15 screw (**Type G**) that secures the Color Sensor to the carriage Assembly.



12. Tilt the Color Sensor so it can be removed.



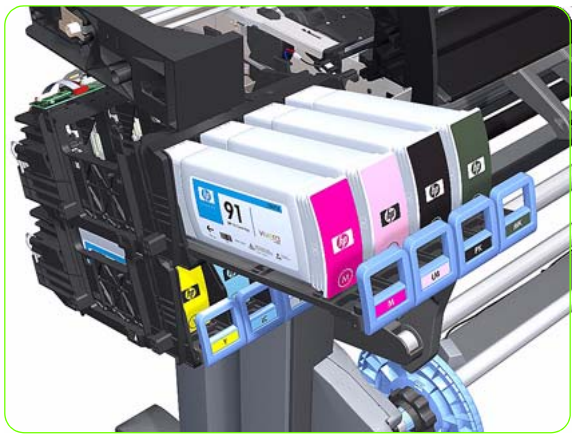
13. Remove the Color Sensor from the Carriage Assembly.

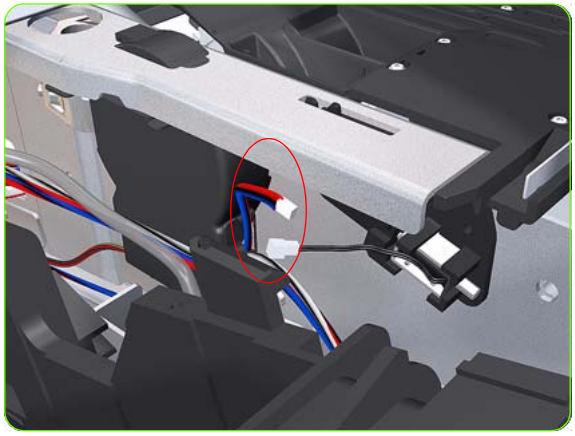
# Color Sensor Actuator Assembly

## Removal

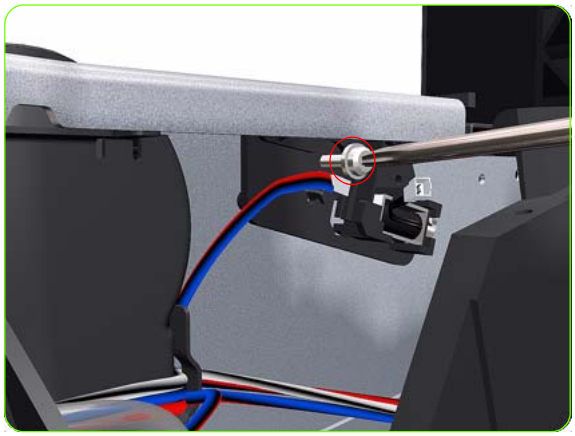
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Left Cover ⇒ See page 270.
2. Remove the Left Spittoon ⇒ See page 328.
3. Slide out the top row of Ink Cartridges from the Ink Supply Station

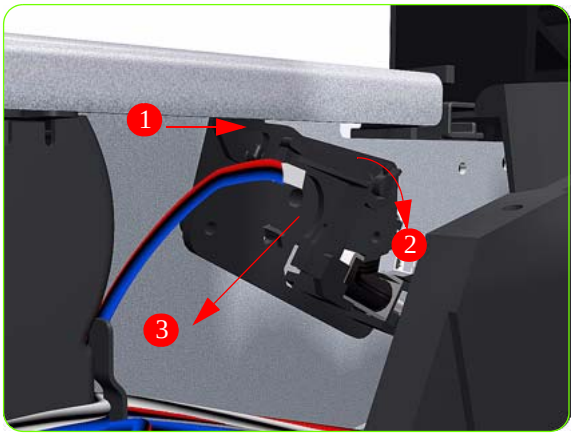




4. Disconnect the Color Sensor Actuator Assembly.



5. Remove one T-15 screw (**Type G**) that secures the Color Sensor Actuator Assembly to the printer.



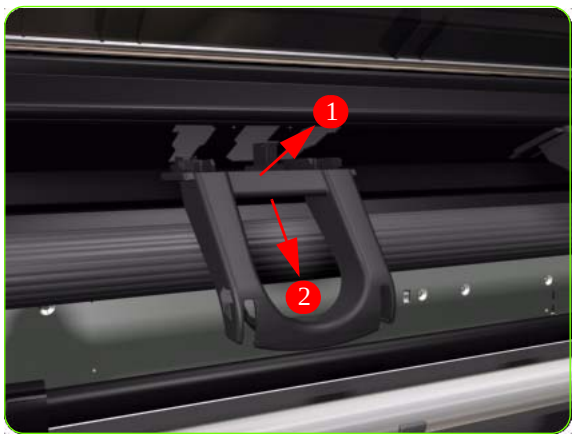

6. Remove the Color Sensor Actuator Assembly to the printer.

# Media Deflector

## Removal

**WARNING!:** Switch off the printer and remove the power cable.

1. Remove two T-20 screw (**Type B**) that secures the Media Deflector that needs to be replaced.




2. Remove the Media Deflector (slide upwards first) from the Printer.

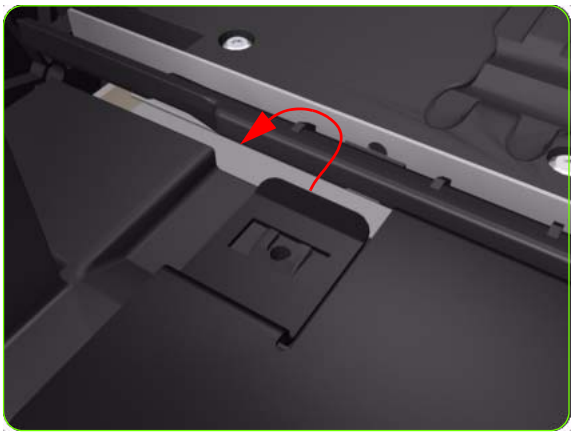
# Output Platen

## Removal

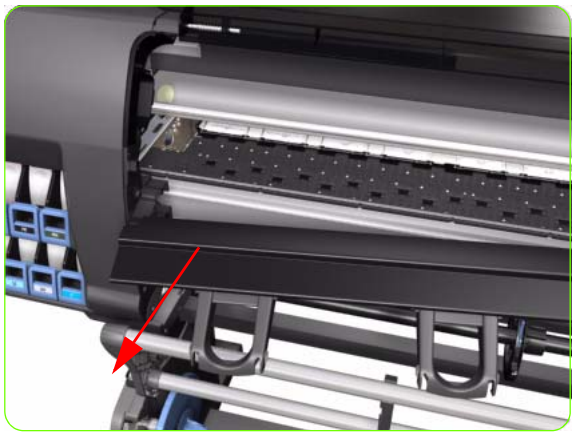
**WARNING!:** Switch off the printer and remove the power cable.

1. Open the Window.

2. Remove four T-15 screws and two cross-head screws that secure the Output Platen.



3. Release the clips on the left and right hand sides of the Front Platen.



4. Pull out the right hand side of the Front Platen.

5. Carefully slide the Front Platen to the right and then remove from the Printer.

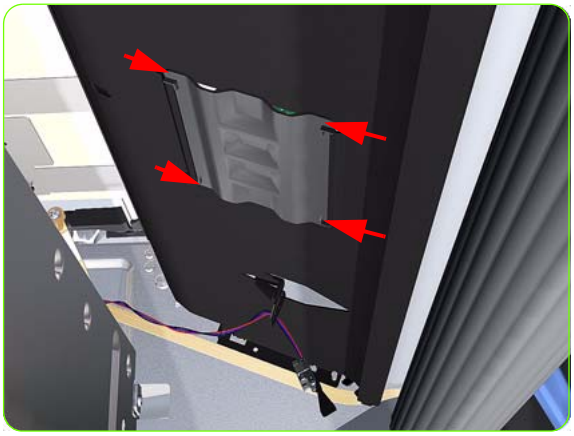
**NOTE:** If a NEW Front Platen is to be installed, make sure that you first remove ALL Media Deflectors (See page 397) from the OLD Front Platen and install them on the New Front Platen.

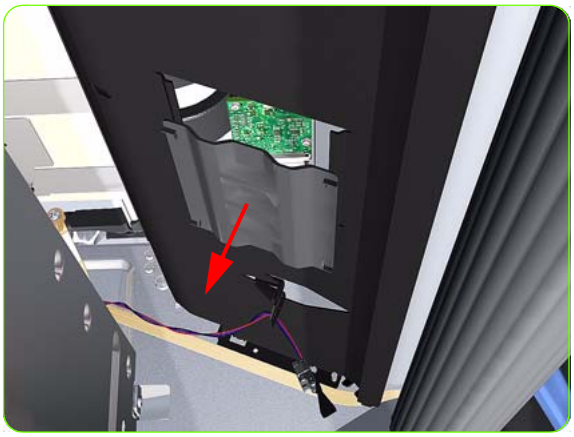
# Center Platen

## Removal

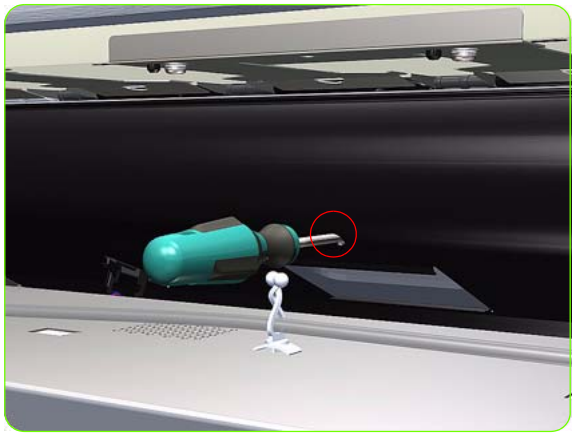
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Cover ⇒ See page 264.
2. Remove the Left Cover ⇒ See page 270.
3. Remove the Top Cover ⇒ See page 277.
4. Remove the Service Station ⇒ See page 300.
5. For the 42-inch model, remove the Rear Door ⇒ See page 281.
6. Squeeze the corners of the OMAS Access Cover release it from the bottom of the printer.





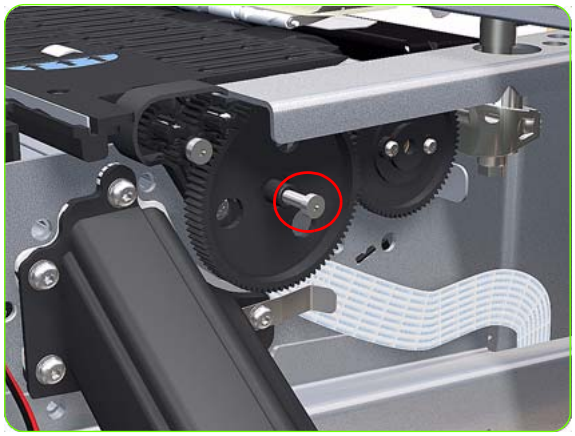
7. Remove the OMAS Access Cover from the printer.



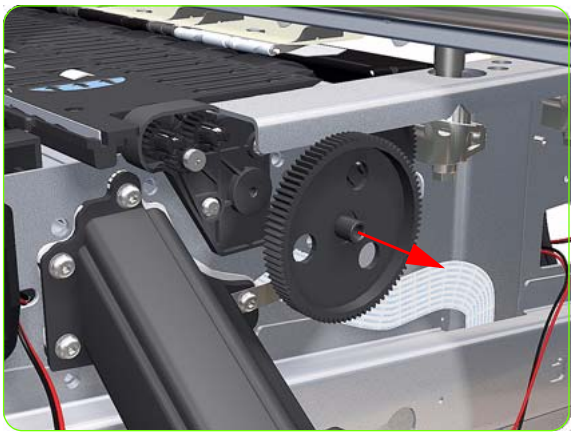
8. Insert the T-20 thin bladed torx screwdriver (supplied with the replacement OMAS) into the access hole at the rear of the printer.

9. Loosen approximately two turns the T-20 screw which secures the OMAS horizontally to the printer.

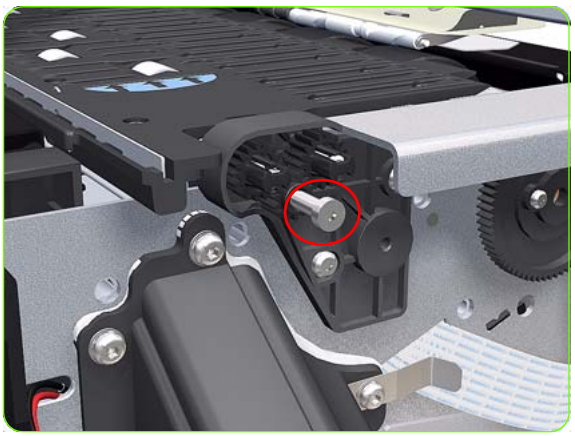
10. From the bottom of the printer, loosen approximately two turns the T-20 screw which secures the OMAS vertically to the printer.



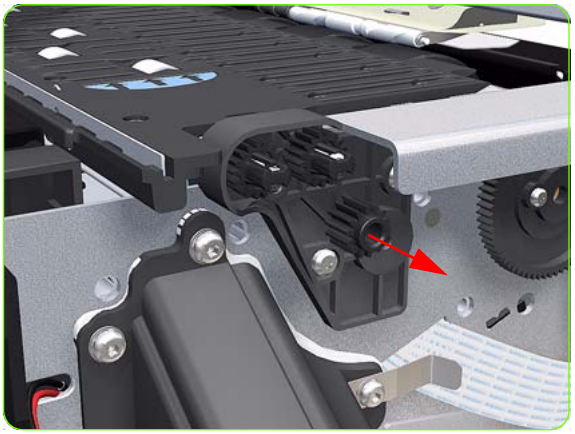
11. Remove one T-15 screw (**Type P**) that secures the Center Platen Gear.



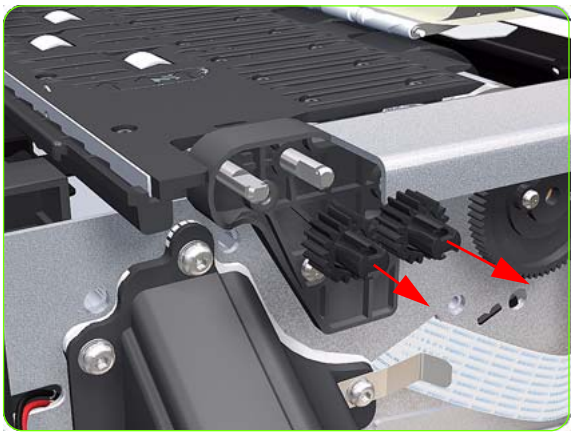
12. Remove the Center Platen Gear from the Printer.



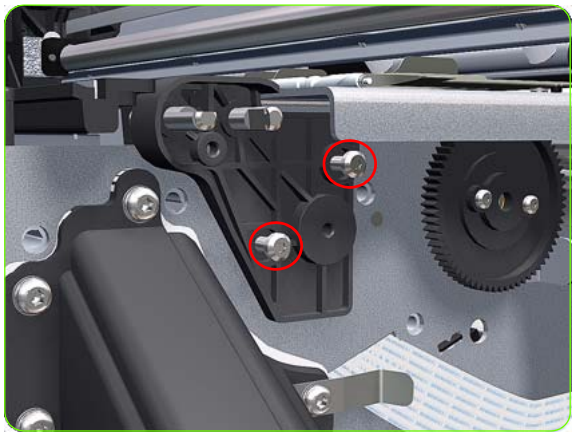
13. Remove one T-15 screw that secures the small Gear.



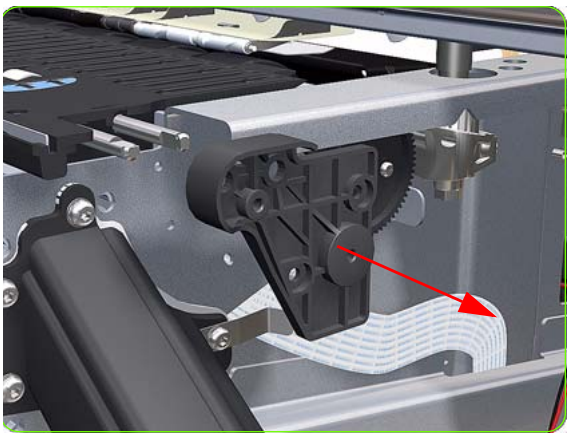
14. Remove the small Gear from the Printer.



15. Remove the two small Platen Gears by releasing the clips.

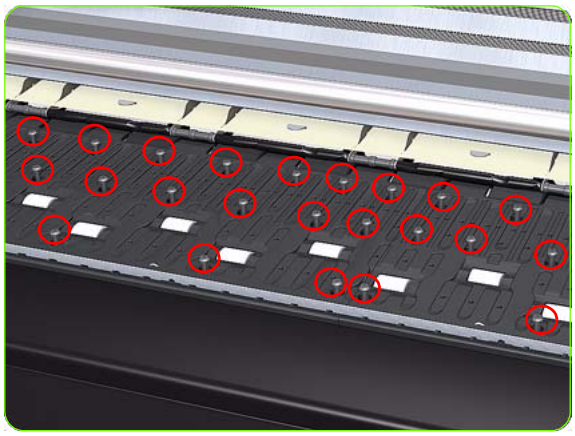


16. Remove two T-20 screws (**Type Q**) that secure the Gear Bracket.



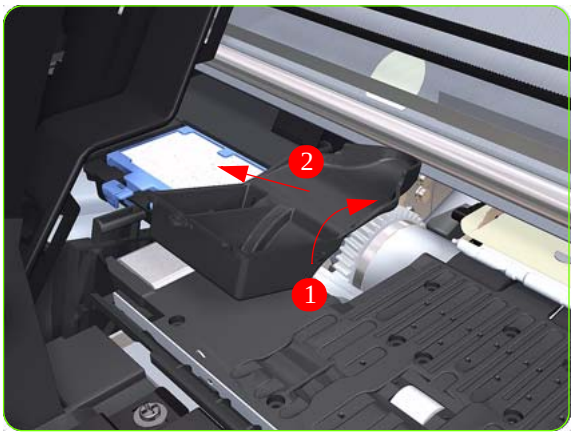
17. Remove the Gear Bracket from the Printer.

18. Move the Carriage Assembly fully to the right.

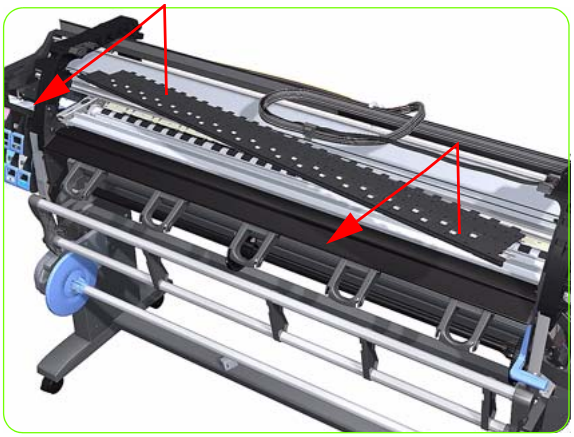


19. Remove all the T-10 screws (**Type C**) that secure the Center Platen:

- 80 T-10 screws for the 42-inch model
- 116 T-10 screws for the 60-inch model.




20. Remove the Secondary Spittoon Blank.



21. Remove the Center Platen from the Printer.

## Installation of the Foams

Before installing the Center Platen, make sure you check the foams that are stuck on the Vacuum Beam. These foams should ONLY be changed if they are damaged. In the circumstance where they do need to be changed, use the following illustrations to guide you:

Foams will need to be trimmed when stuck to the Vacuum Beam

**NOTE:** Make sure you take note of the positions of the Foams located underneath the center Platen.

**NOTE:** When reinstalling the parts, make sure you apply the grease (included with the support part) to the gears.

**NOTE:** After installing the NEW Center Platen, make sure you perform the following Service Calibration:

- Paper Advance Calibration ⇒ Chapter 5.

**NOTE:** To simplify the installation of the OMAS an Attachment Screw Retainer has been added to hold the two T-20 attachment screws. This part is delivered with the Center Platen in case either of the OMAS attachment screws are completely removed during the removal of the Center Platen.

### OMAS Attachment Screws Completely Removed during Center Platen Removal

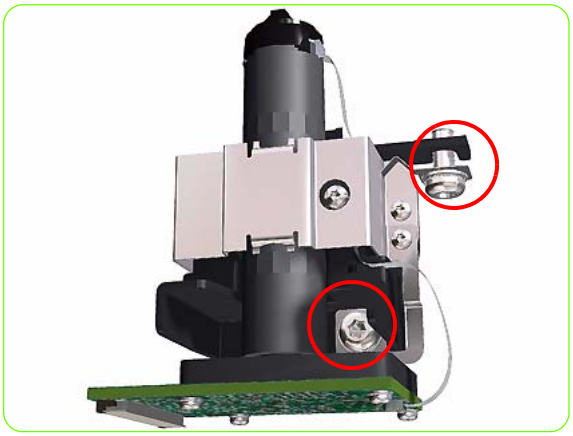
1. Completely remove OMAS from the Printer ⇒ See

page 351.

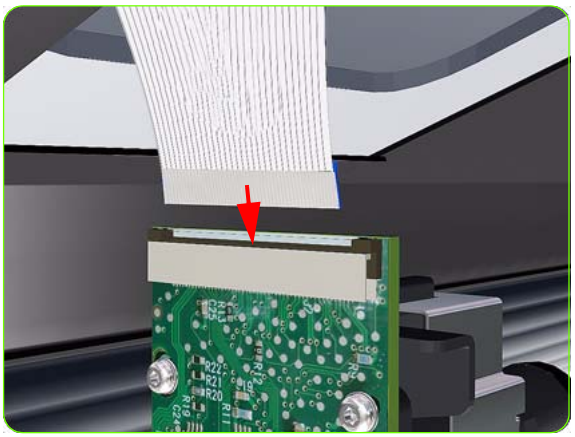
2. Install the Center Platen.

**NOTE:** When reinstalling the parts, make sure you apply the grease (included with the support part) to the gears.

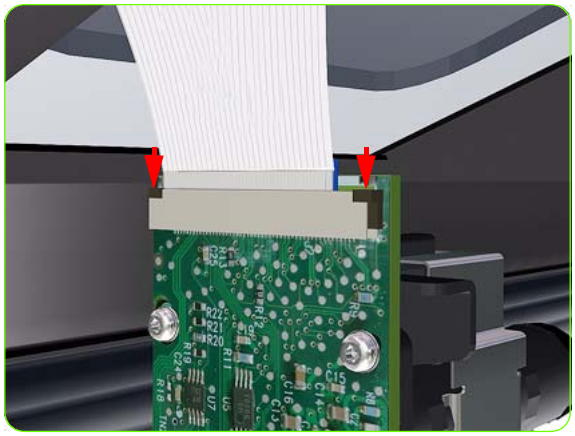
3. Position the Attachment Screw Retainer on the OMAS and secure it with the T-8 attachment screw provided with Center Platen.



4. Verify that the two T-20 attachment screws are correctly positioned in the Attachment Screw Retainer.



5. Position the OMAS under the Printer and connect the large ribbon.



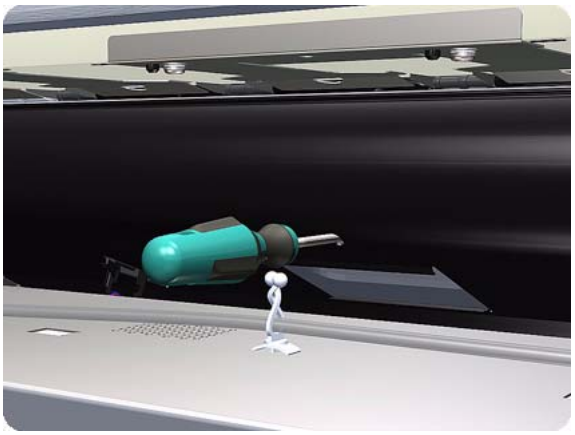
6. Lock the clips of the large ribbon cable connector.

7. Carefully push the OMAS fully up into its mounting so it protrudes slightly (approximately 0.1 mm) above the Center Platen. To ensure the OMAS is correctly positions, slide a sheet of paper over the Platen Ribs until it is stopped by the OMAS. This ensures the OMAS is protruding slightly above the platen.

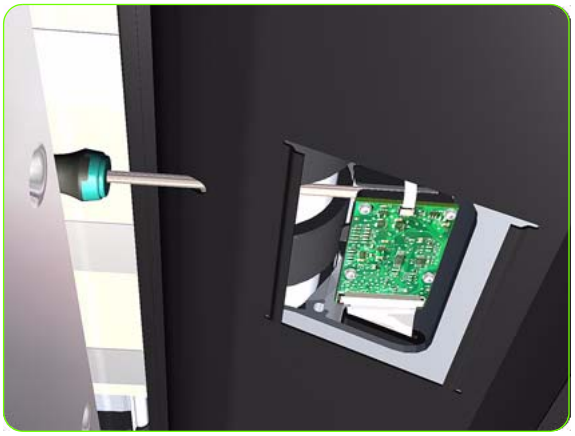
△ **CAUTION:** Make sure the OMAS is pushed completely up into its mounting or you will encounter an error during the OMAS calibration because it will not be able to focus on the paper.

8. If the paper is not stopped by the OMAS, repeat step 4 to ensure the OMAS is push fully up into its the mounting.

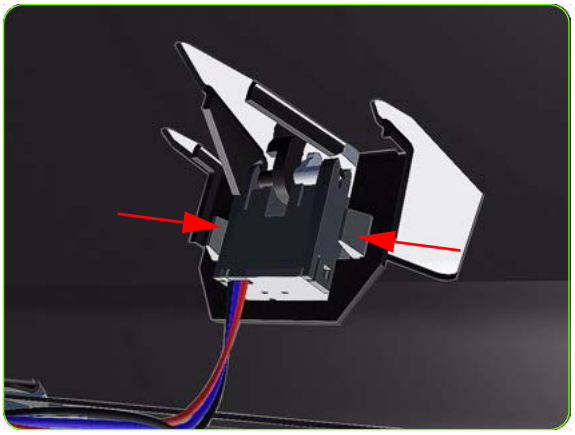
9. Fully tighten the T-20 vertical attachment screw.



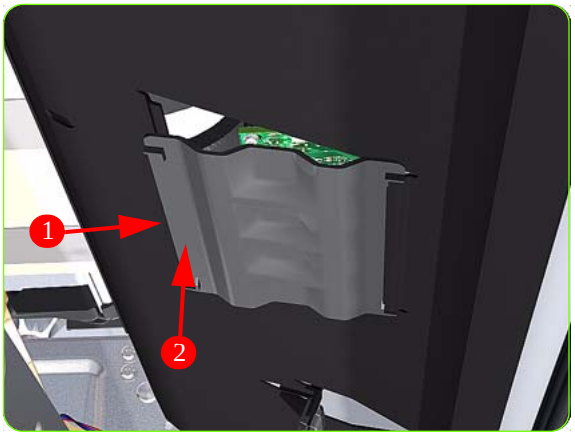
10. Insert the T-20 thin bladed torx screwdriver into the access hole at the rear of the printer.



11. Fully tighten the T-20 horizontal attachment screw which secures the OMAS to the printer.



12. Clip the Media Sensor to the Center Guide.



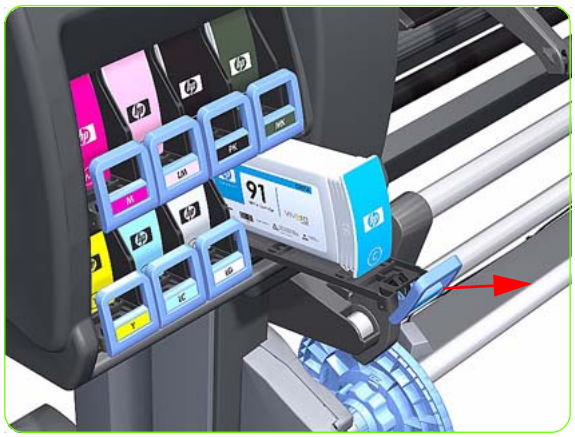

13. Clip the OMAS access cover back into place by sliding one edge of the cover into the slot and then applying enough pressure to it so you can clip it into the other slot.

14. Calibrate the following:
    - OMAS ⇒ See page 167.
    - Paper Advance Calibration ⇒ See page 157.

# Cartridge Tray

## Removal

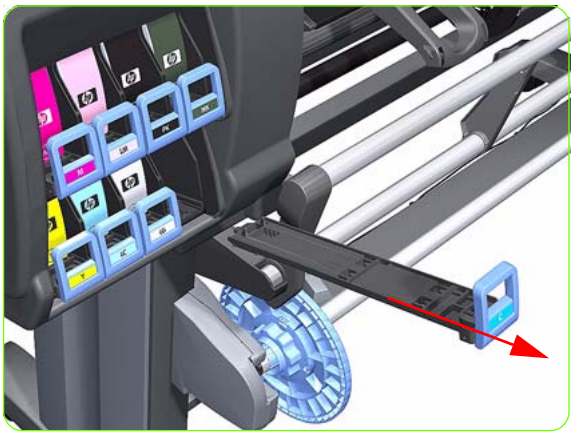
**WARNING!:** Switch off the printer and remove the power cable.



1. Release the Tray Lever of the required color and pull out the Tray.

2. Remove the Ink Cartridge if installed.

3. Press down on the Tray clip.



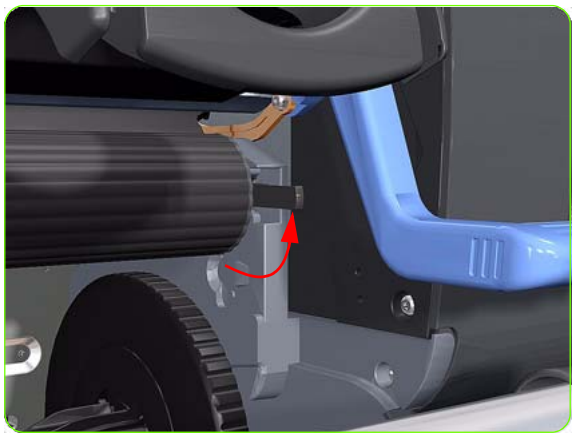
4. Pull the Tray completely out of the Printer.

**NOTE:** Note that each Cartridge Tray is different even though they look very similar. When selecting the Cartridge Tray from the Support Part (it contains eight Cartridge Trays), choose the Tray that exactly matches the one that you have just removed.

# Input Roller

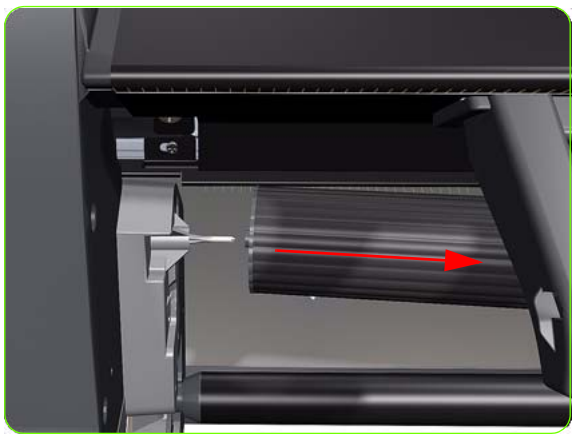
## Removal

**WARNING!:** Switch off the printer and remove the power cable.



1. Raise the right lever to release the right hand end of the Input Roller.

2. Pull out the right hand end of the Input Roller from the Printer.



3. Move the Input Roller to the right to disengage it from the Printer.

4. Remove the Input Roller from the Printer.

# Maintenance Cartridge Door

## Removal

**WARNING!:** Switch off the printer and remove the power cable.

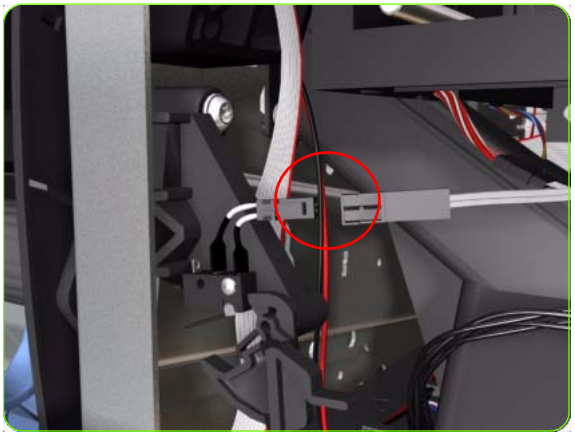
1. Open the Maintenance Cartridge Door.

2. Unclip and remove the Maintenance Cartridge Door from Right Cover.

# Maintenance Cartridge Door Sensor

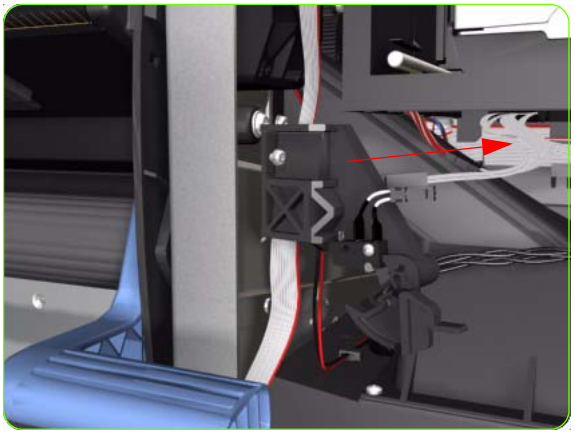
## Removal

**WARNING!:** Switch off the printer and remove the power cable.



1. Remove the Right Cover ⇒ See page 264.
2. Disconnect the Maintenance Cartridge Door Sensor cable.

3. Release one T-10 screw the attaches the Maintenance Cartridge Door Sensor assembly to the printer.



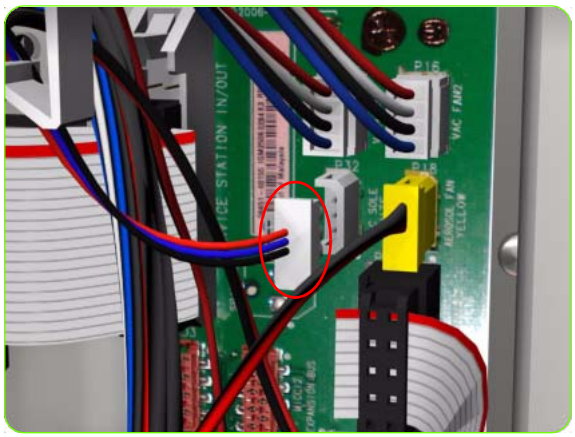
4. Remove the Maintenance Cartridge Door Sensor assembly to the printer.

# Media Sensor

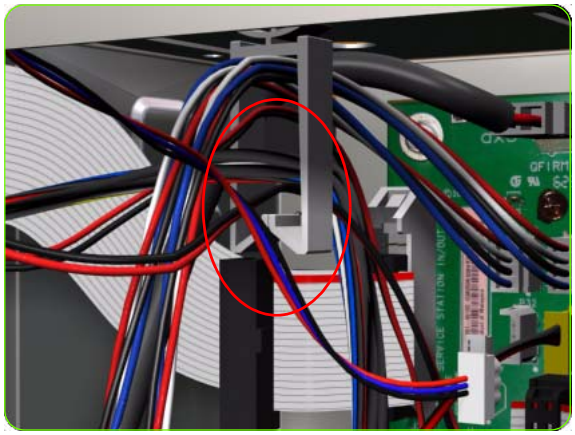
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

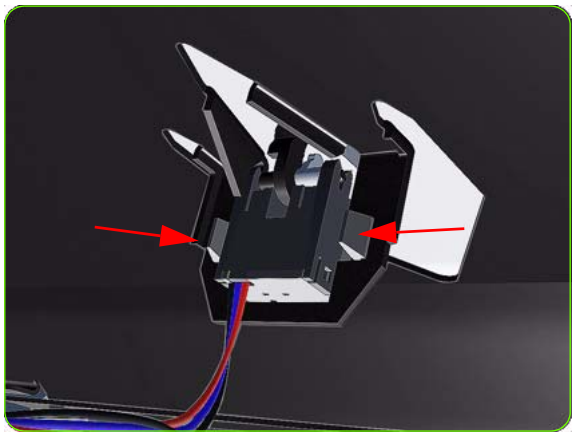
1. Remove the Rear Door ⇒ See page 283.
2. Remove the Right Connector Cover ⇒ See page 285.
3. Disconnect the Media Sensor cable from the Interconnect PCA.

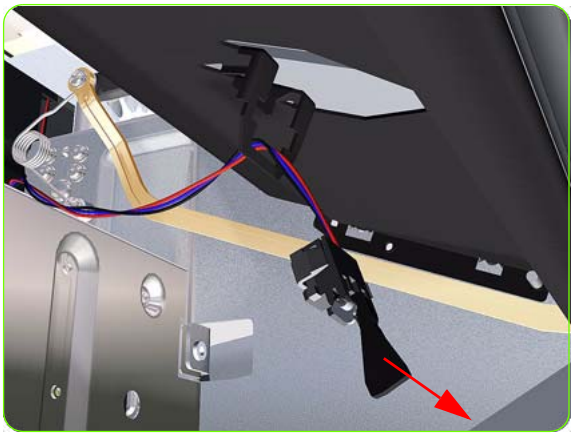


4. Release the Media Sensor cable from the clip located on the Electronics Module.



5. Unclip the Media Sensor from the Center Guide.





6. Pull the cable and connector through the mounting hole and remove the Media Sensor from the Printer.

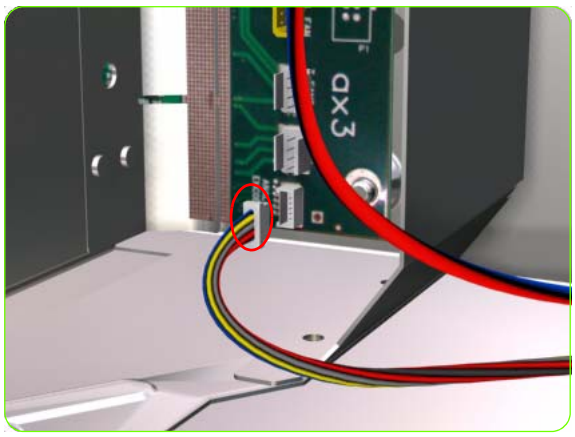
# Encoder Disc and Sensor

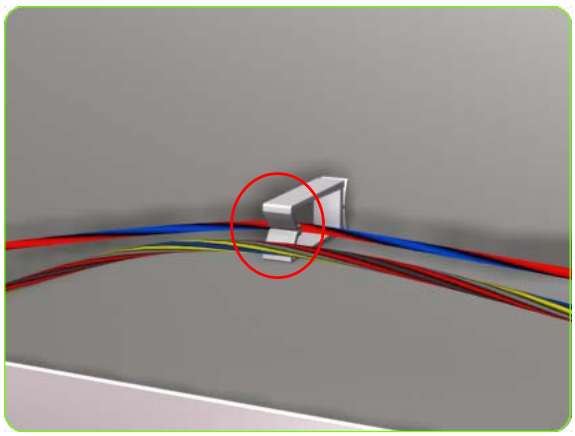
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

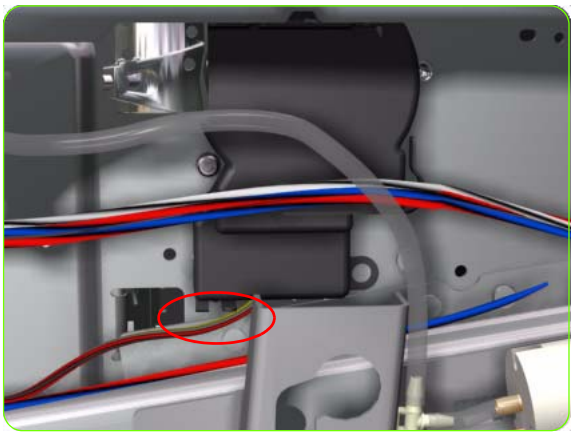
**CAUTION:** Please handle the Encoder Disc very carefully since any finger prints, scratches or stains could cause the Printer to malfunction.

1. Remove the Left Cover ⇒ See page 270.
2. Remove:
   - For the 42-inch model, the Left Connector Cover ⇒ See page 287.
   - For the 60-inch model, the Electronics Module Extension⇒ See page 288.
3. Remove the Ink Supply Station ⇒ See page 321.
4. Disconnect the Encoder Sensor cable from the PrintMech PCA.

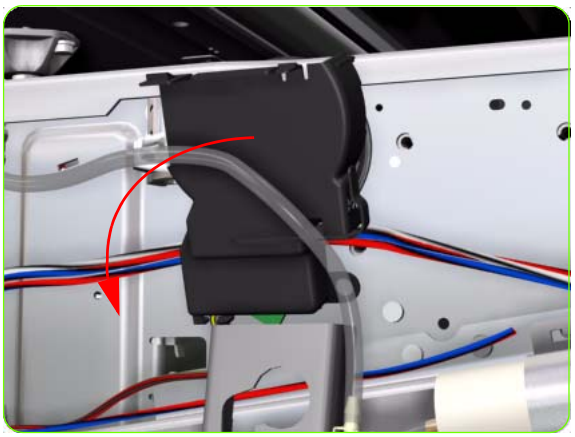


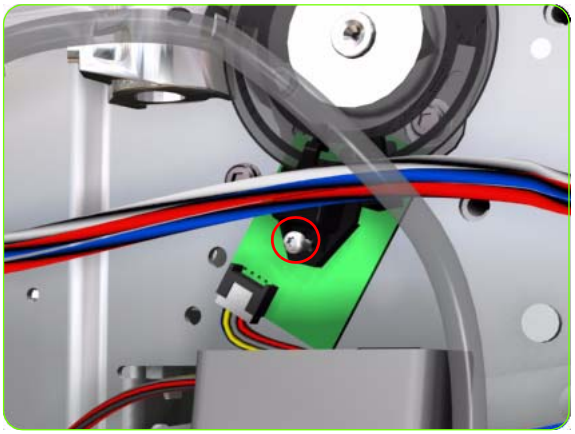
5. Release the Encoder Sensor cable from the clip located on the Electronics Module.



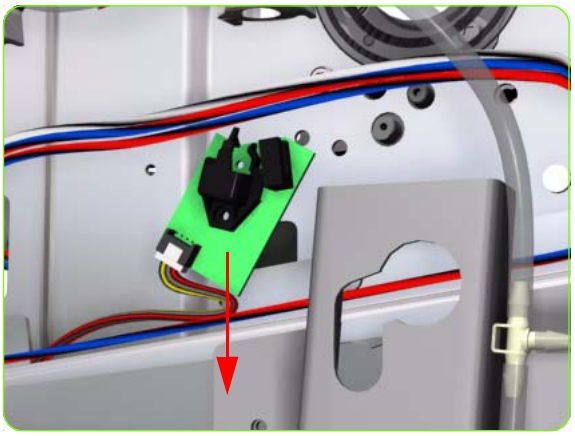
6. Release the Encoder Sensor cable from the clip located on the Encoder Disc Cover.



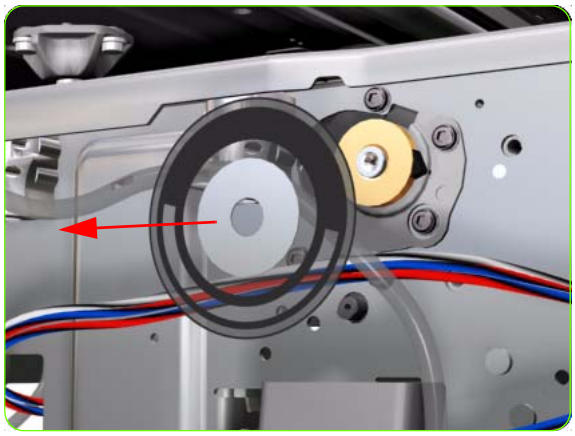
7. Unclip the Encoder Disc Cover and remove from the Printer.



8. Remove one T-8 screw (**Type D**) that secures the Encoder Sensor to the Chassis.



9. Remove the Encoder Sensor from the Printer.



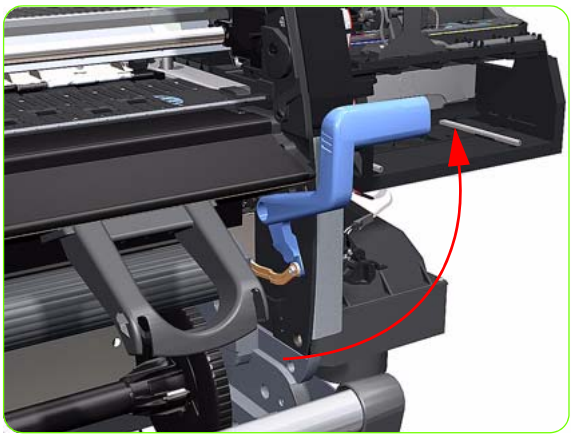
10. Carefully peel the Encoder Disc from the Drive Roller.

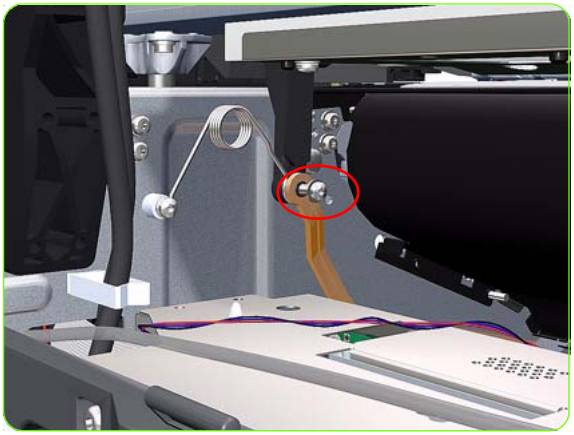
# Media Lever Assembly

## Removal

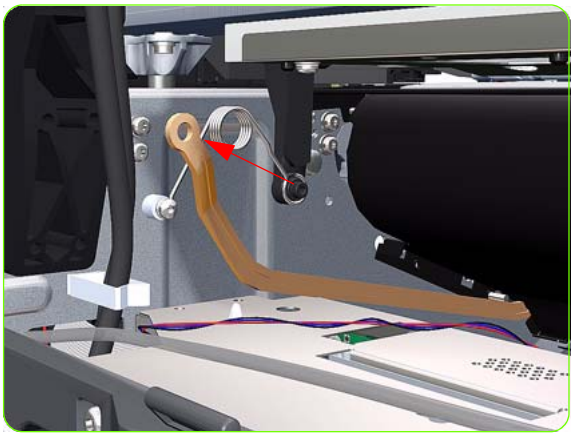
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Cover ⇒ See page 264.
2. Remove the Rear Door ⇒ See page 283.
3. Raise the Media Lever.

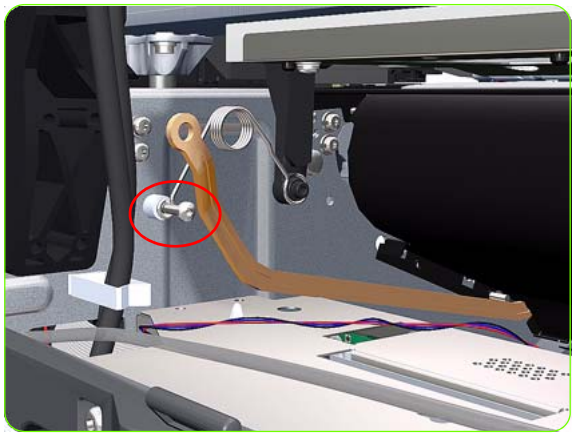




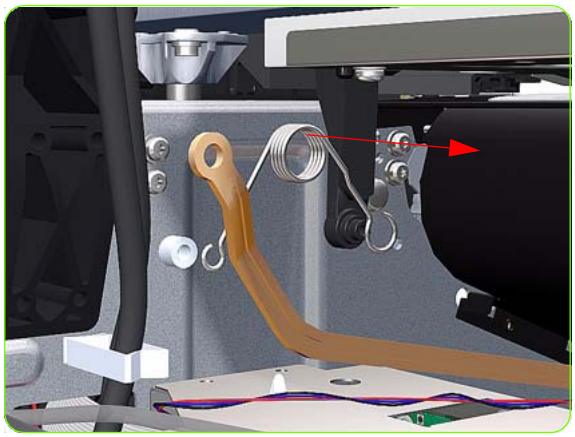
4. Remove one T-15 screw (**Type F**) that secures the Linkage to the Spring.



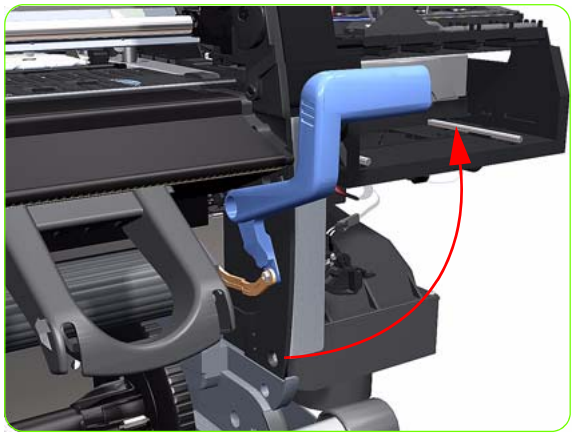
5. Remove the Linkage from the Spring.



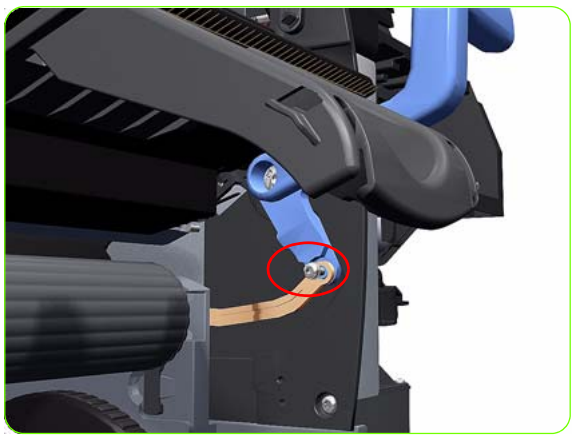
6. Remove one T-20 screw (**Type A**) that secures the Spring to the Spacer.



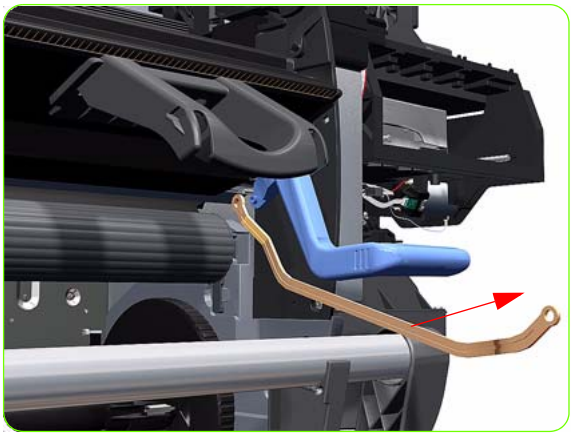
7. Remove the Spring and plastic washer.



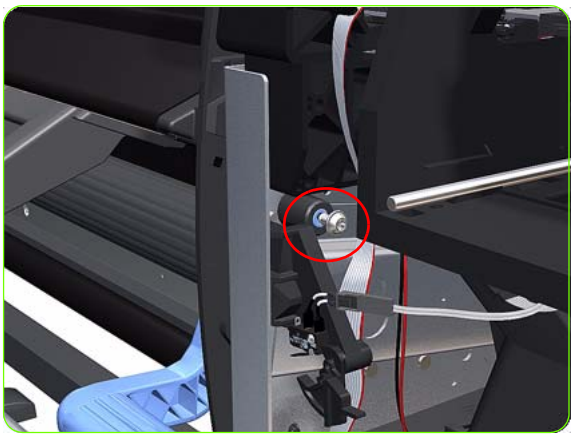
8. Raise the Media Lever to gain access to the linkage attachment screw.



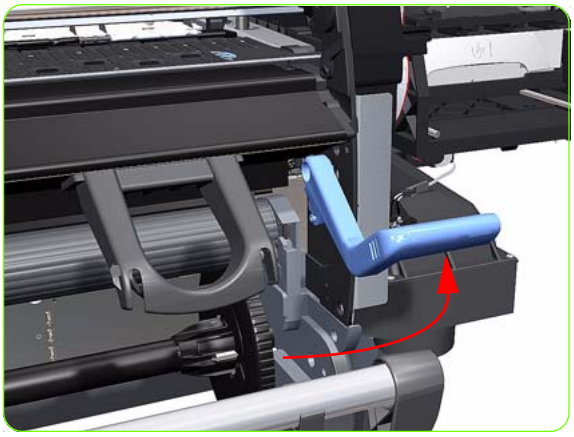
9. Remove one T-15 screw (**Type F**) that secures the Media Lever to the Linkage.



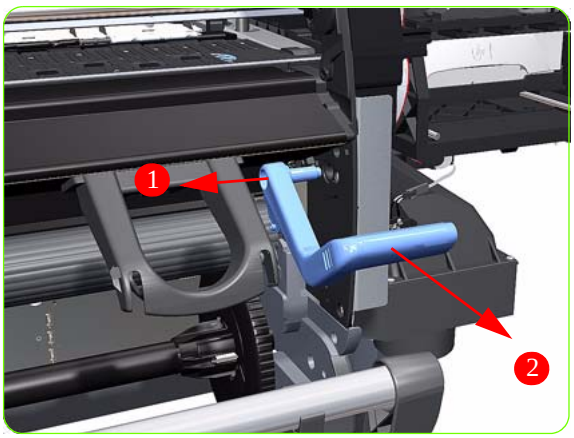
10. Remove the Media Lever Linkage from the Printer.



11. Remove one T-20 screw (**Type O**) that secures the Media Lever to the Right Trim.



12. Raise the Media Lever.



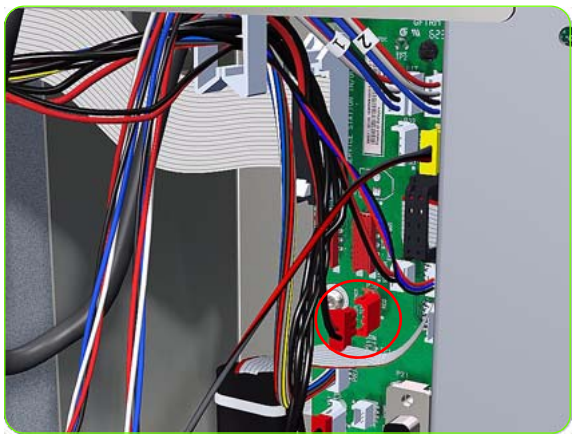

13. Remove the Media Lever from the Printer.

# Media Lever Sensor

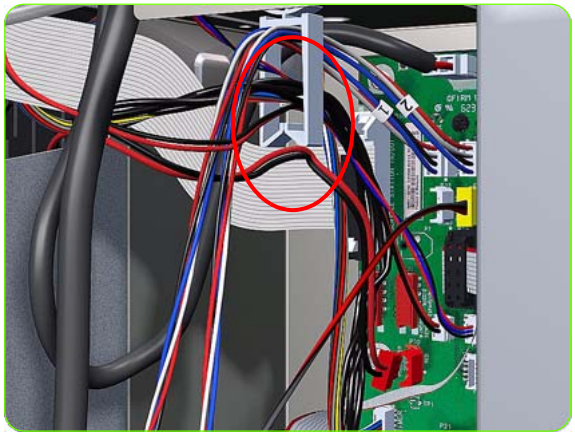
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

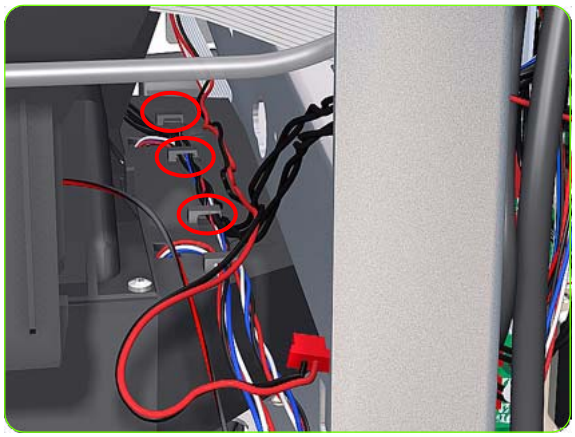
1. Remove the Right Cover ⇒ See page 264.
2. Remove the Right Trim ⇒ See page 267.
3. Remove the Right Connector Cover ⇒ See page 281.
4. Remove the Output Platen ⇒ See page 398.
5. Disconnect the Media Lever Sensor cable from the Interconnect PCA.

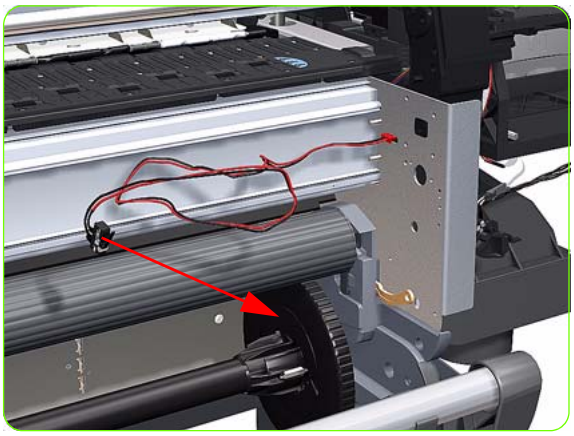


6. Unroute the Media Lever Sensor cable from the cable clamp.



7. Release the Media Lever Sensor Cable from the three clips on the Vacuum Fan.





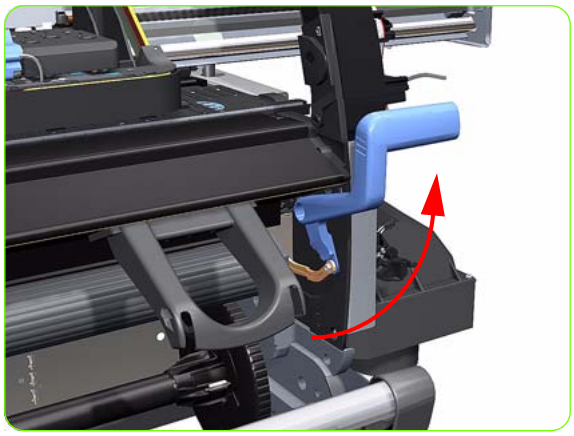
8. Remove the Media Lever Sensor from the Printer.

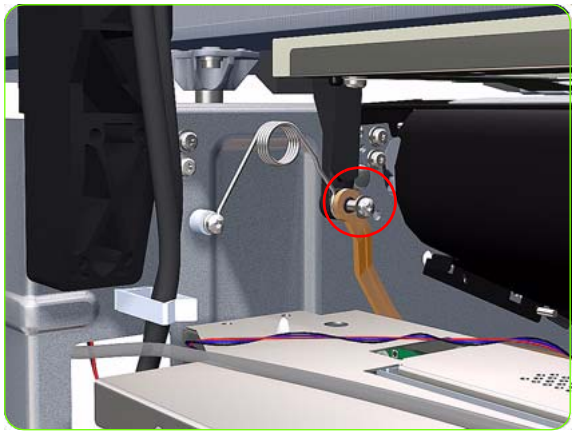
# Pinchwheel Assembly

## Removal

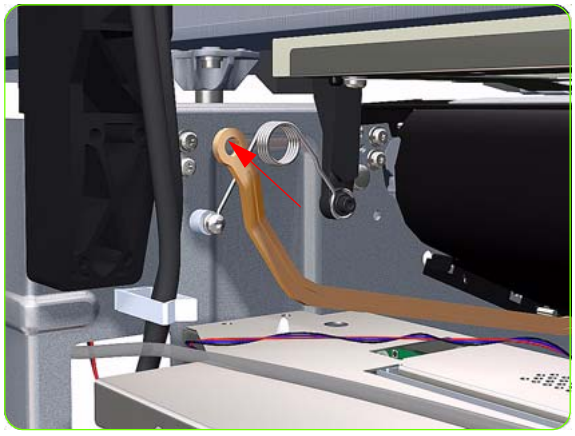
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Cover ⇒ See page 264.
2. Remove the Rear Door ⇒ See page 283.
3. Remove the Service Station ⇒ See page 300.
4. Raise the Media Lever.

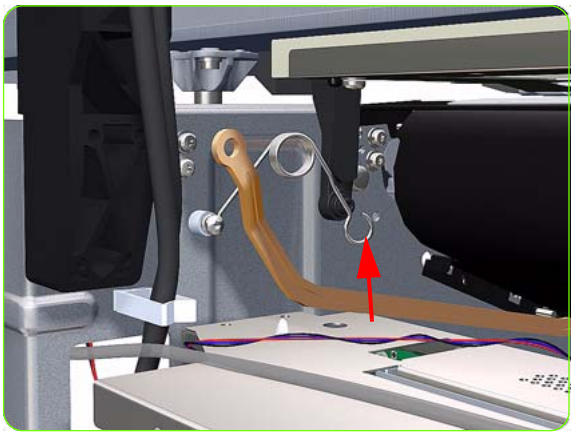




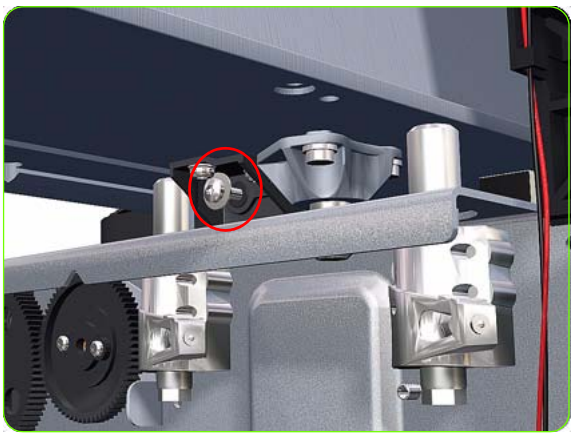
5. Remove one T-20 screw that secures the Linkage to the Spring.



6. Disconnect the linkage from the Pinch Wheel cam-arm.



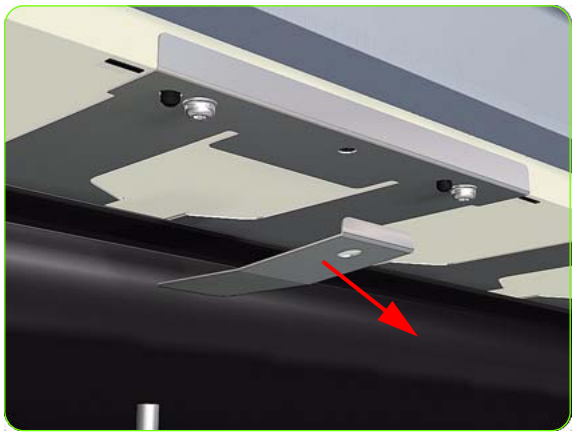
7. Disconnect the spring from the Pinch Wheel cam-arm.



8. Remove one T-20 screw that secures the Cam to the Cam Lever.

9. Insert a plastic stud in to each Pinchwheel Subassembly (the Plastic Studs can be found in the replacement Pinchwheel Assembly kit).

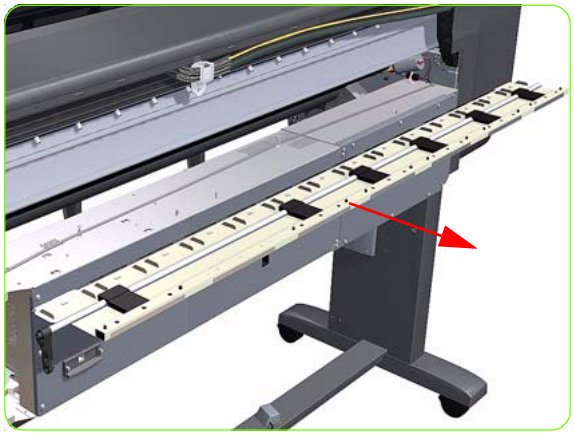
10. For the 60-inch model, remove one T-20 screw that secures the attachment plate to the center Pinchwheel Subassembly.



11. For the 60-inch model, remove the attachment plate from the center Pinchwheel Subassembly.

12. Remove two T-20 screws (**Type M**) from each Pinchwheel Subassembly (a 90 degree angle screwdriver is included with the replacement Pinchwheel Assembly).

**NOTE:** The illustration shows the 60-inch model center Pinchwheel Subassembly.



13. Remove the complete Pinchwheel Assembly (including the Cam and Cam Lever) from the Printer.

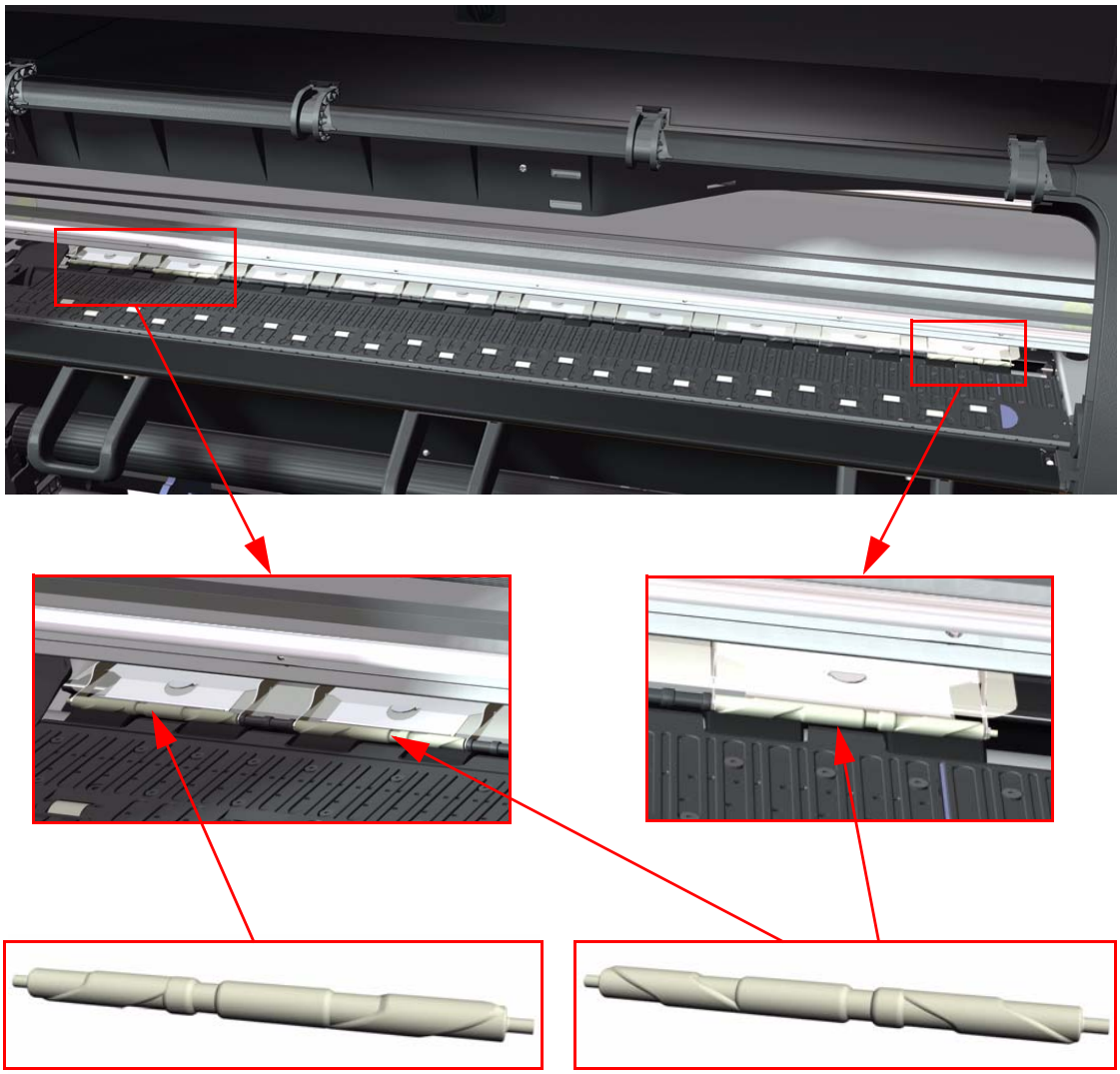
**NOTE:** Before installing the NEW Pinchwheel Assembly, insert the plastic studs in to each Pinchwheel subassembly. This will make it easier to install the complete Pinchwheel Assembly.

## Removing individual Pinchwheel Rollers

1. To remove an individual Pinchwheel roller, push apart the metal part that secures the Pinchwheel roller and then pull out the individual Pinchwheel roller.

## Important Information on Installation of Pinchwheels

The Pinchwheel Assembly contains 3 white Pinchwheels and several black Pinchwheels. The black Pinchwheels are symmetrical so can be installed without any problems, BUT the white Pinchwheels are NOT symmetrical so it is VERY IMPORTANT to install them correctly using the following illustration:



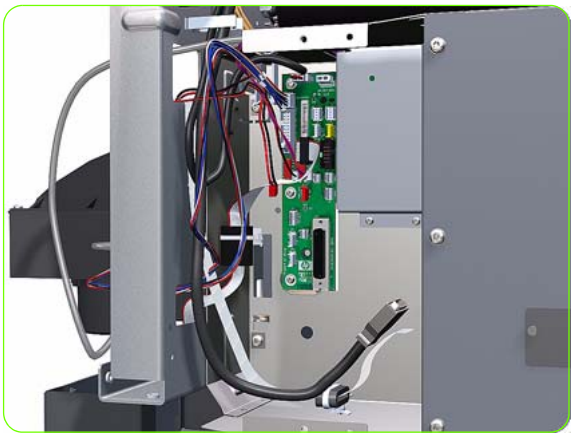
**Check the orientation of the Pinchwheel before installing**

# Center Guide

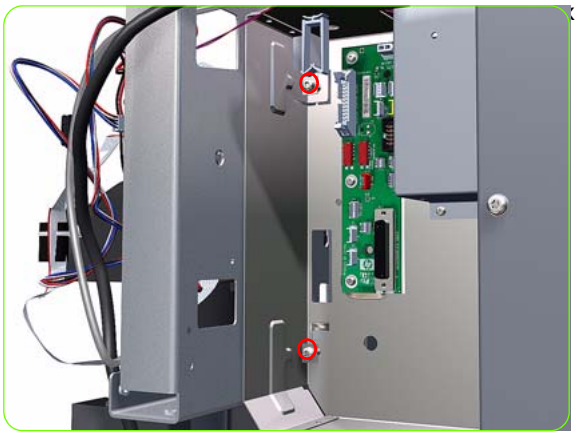
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

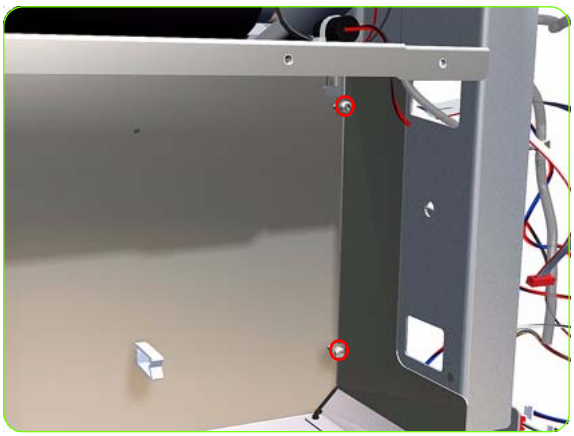
1. Remove the Right Cover ⇒ See page 264.
2. Remove the Left Cover ⇒ See page 270.
3. Remove the Primer Assembly ⇒ See page 294.
4. Remove the Right Connector Cover ⇒ See page 281.
5. Remove:
   - For the 42-inch model, the Left Connector Cover ⇒ See page 287.
   - For the 60-inch model, the Electronics Module Extension⇒ See page 288.
6. Remove the Service Station ⇒ See page 300.
7. Remove the Ink Supply Station ⇒ See page 321.
8. Remove the Media Sensor ⇒ See page 423.
9. Disconnect ALL the cables connected to the right Interconnect PCA and the Sausalito PCI PCA.



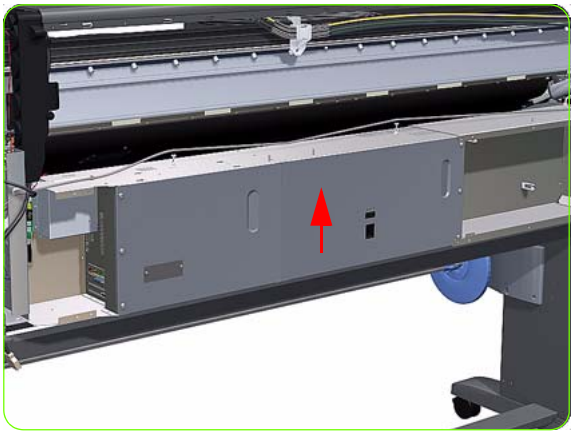
10. Unroute all the disconnected cables so they are clear of the Electronics Module.



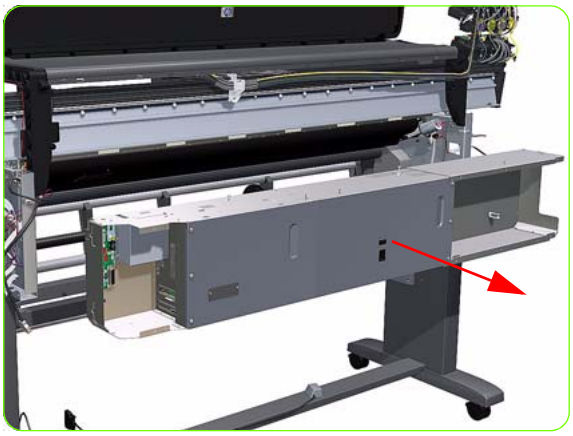
11. Remove two T-20 screws (**Type B**) that secure the right side Electronics Module.



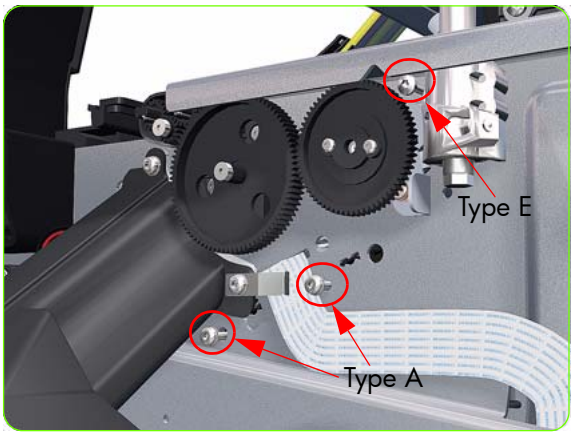
12. Remove two T-20 screws (**Type B**) that secure the left side Electronics Module.



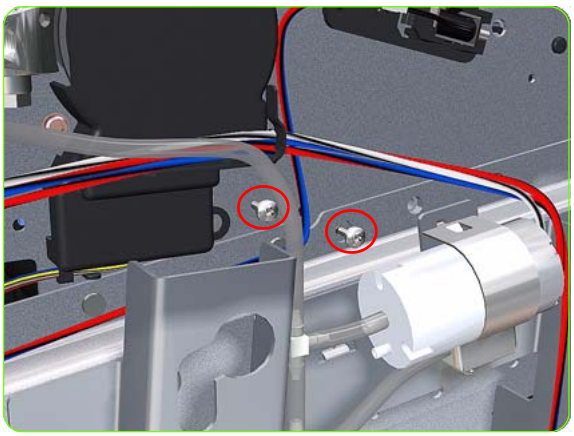
13. Lift the Electronics Module sufficiently (approximately 2 cm) to release it from the attachments.



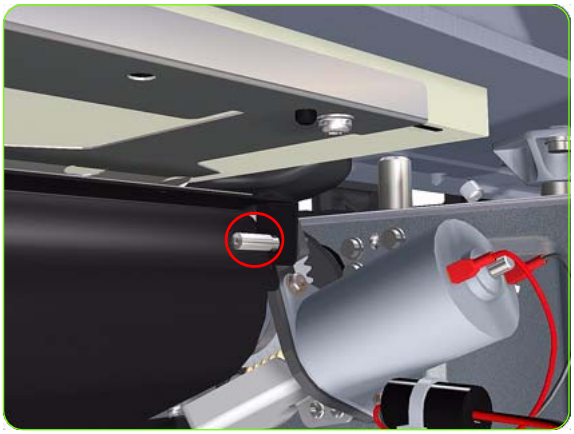
14. Remove the Electronics Module from the Printer.




15. Remove one T-15 screw (**Type E**) and two T-20 screws (**Type A**), that secure the Center Guide, from the right hand side of the Printer.



16. Remove two T-15 screws (**Type E**), that secure the Center Guide, from the left hand side of the Printer.



17. Remove one T-15 screw (**Type S**), that secures the Center Guide, from underneath the Printer.

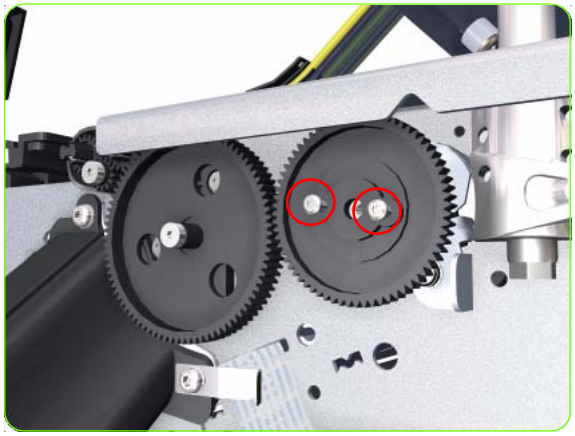
18. Remove the Center Guide from the Printer.

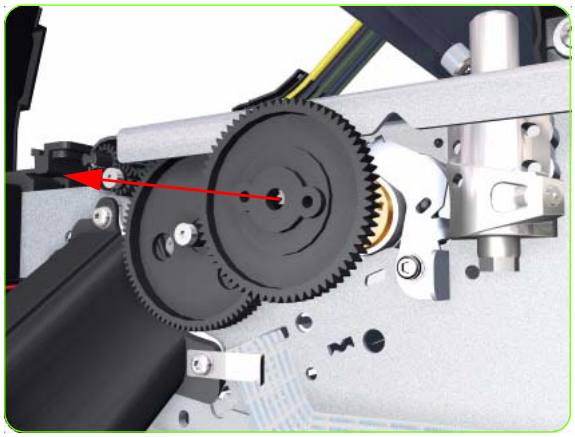
# Drive Roller

## Removal

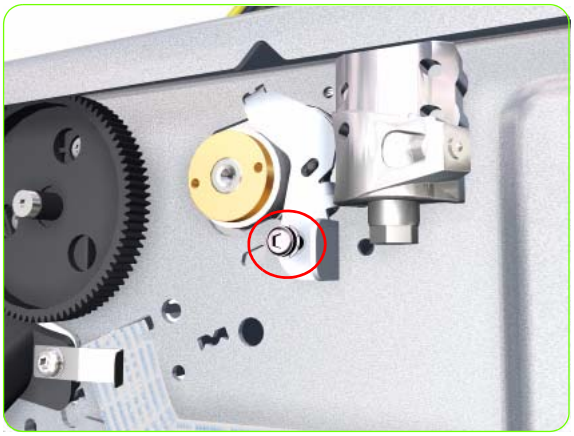
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Right Cover ⇒ See page 264.
2. Remove the Left Cover ⇒ See page 270.
3. Remove the Right Connector Cover ⇒ See page 281.
4. Remove:
   - For the 42-inch model, the Left Connector Cover ⇒ See page 287.
   - For the 60-inch model, the Electronics Module Extension⇒ See page 288.
5. Remove the Service Station ⇒ See page 300.
6. Remove the Ink Supply Station ⇒ See page 321.
7. Remove the Media-Axis Motor ⇒ See page 349.
8. Remove the Encoder Disc and Sensor ⇒ See page 417.
9. Remove the Media Lever Assembly ⇒ See page 420.
10. Remove the Media Sensor ⇒ See page 423.
11. Remove the Center Guide ⇒ See page 430.
12. Remove two T-10 screws that secure the Drive Roller Gear.

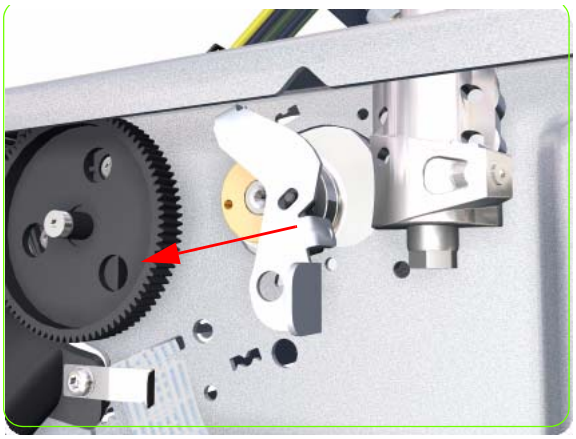




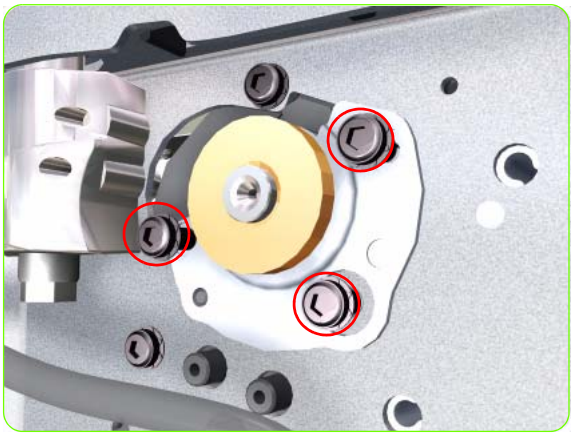
13. Remove the Drive Roller Gear from the Printer.



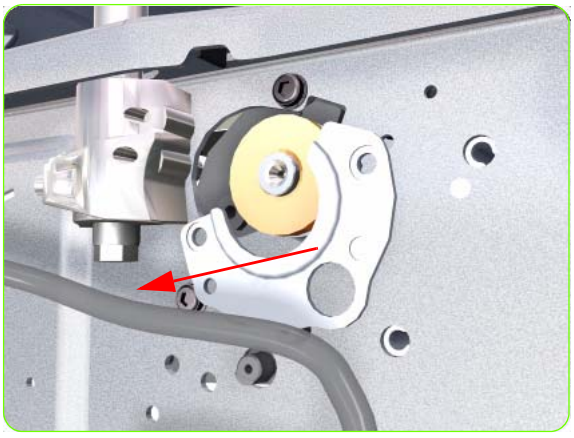
14. Remove one T-20 screw (**Type B**) that secures the cover on the right hand side of the Printer.



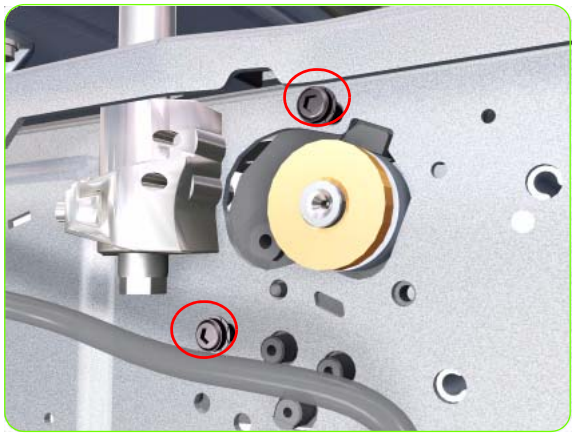
15. Remove the Cover.



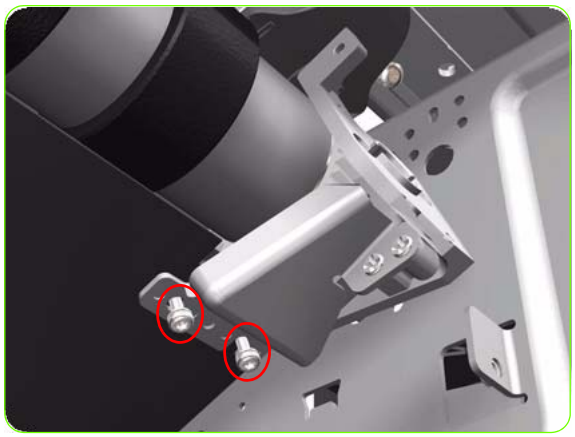
16. Remove three T-20 screws that secure the cover on the left hand side of the Printer.



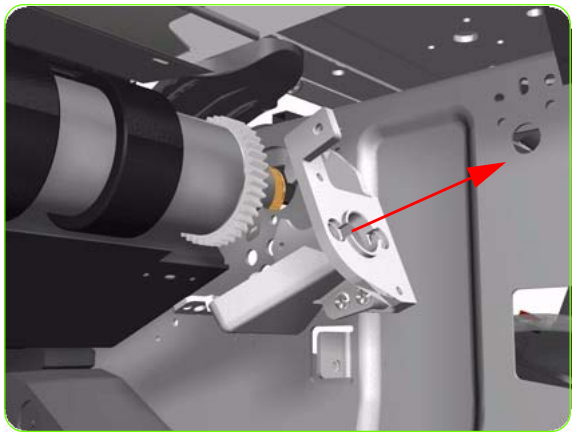
17. Remove the Cover.



18. Remove T-20 screws that secure the Media-Axis Motor Bracket to the side-plate.



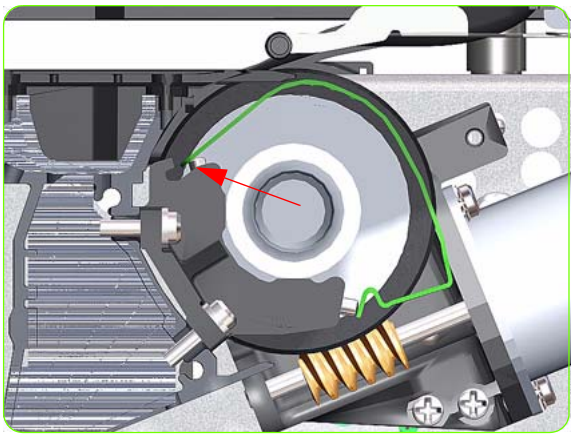
19. Remove two T-20 screws (**Type A**) that secure the Media-Axis Motor Bracket to the Chassis.



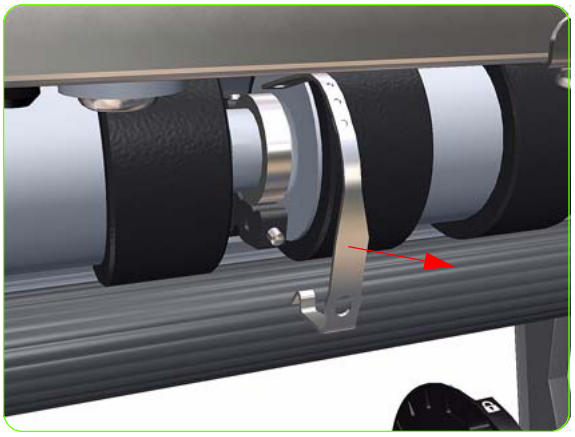
20. Remove the Media-Axis Motor Bracket from the Printer.

21. For the 60-inch model, use a flat bladed screwdriver to unclip the Roller Middle Support Cover.

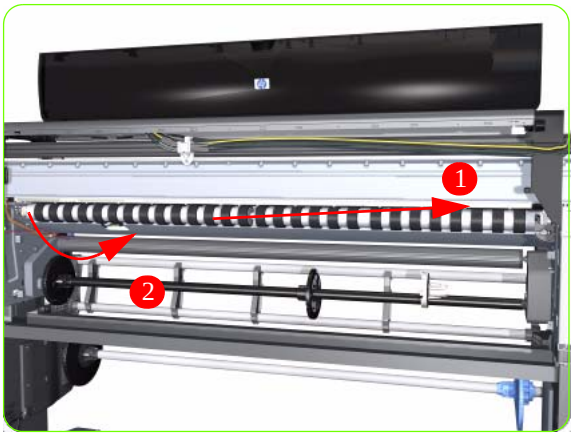
22. For the 60-inch model, rotate the Roller Middle Support Cover vertically.



23. For the 60-inch model, release the Roller Middle Support Cover from its attachment point.



24. For the 60-inch model, remove the Roller Middle Support Cover.




25. Remove the Drive Roller by sliding it to the right, then downwards and then out of the Printer.

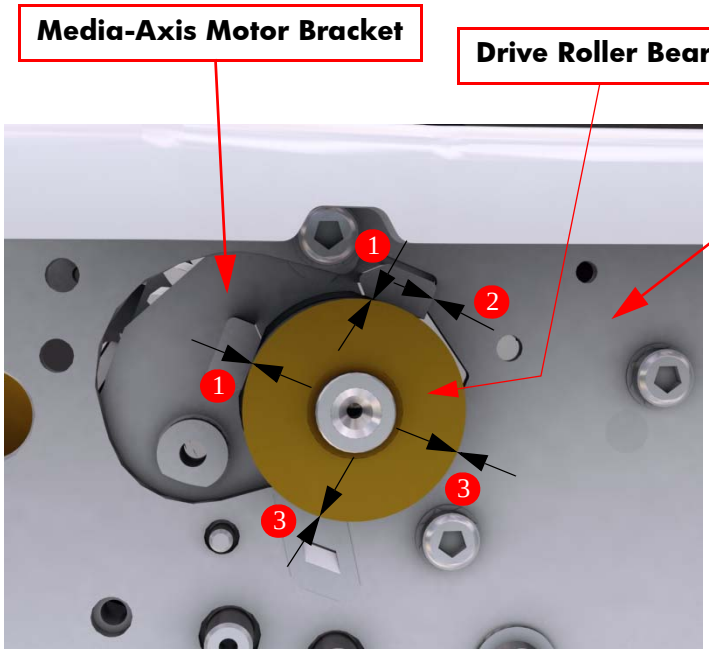
**NOTE:** When reinstalling the parts, make sure you apply the grease (included with the support part) to the gears.

**NOTE:** After installing the NEW Drive Roller, make sure you perform the following Service Calibration.

- Paper Advance Calibration ⇒ Chapter 5.

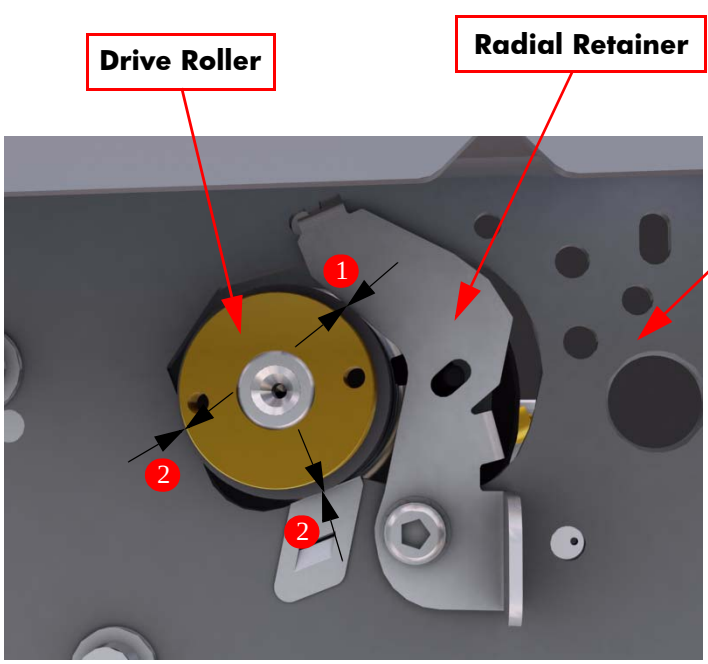
## Installation of the Drive Roller

When installing the Drive Roller, several different datums have to be met in order to ensure that the Drive Roller has no axial play. Use the following illustrations to ensure that ALL the datums are met:




1. Datum between Media-Axis Motor Bracket and Drive Roller Bearing
2. Datum between Media-Axis Motor Bracket and Sideplate
3. Datum between Drive Roller Bearing and Sideplate

**Left Hand Side of the Printer**

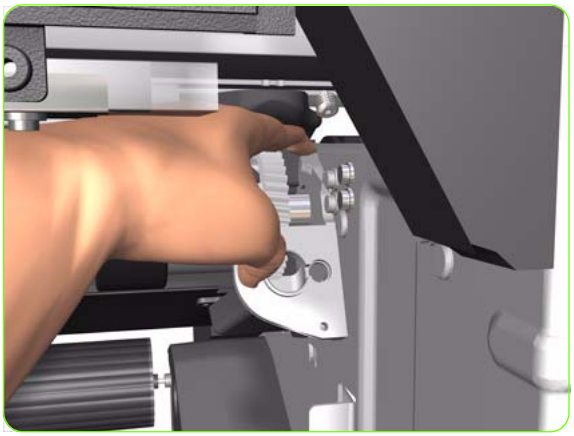



1. Datum between Drive Roller and Radial Retainer
2. Datum between Drive Roller and Sideplate

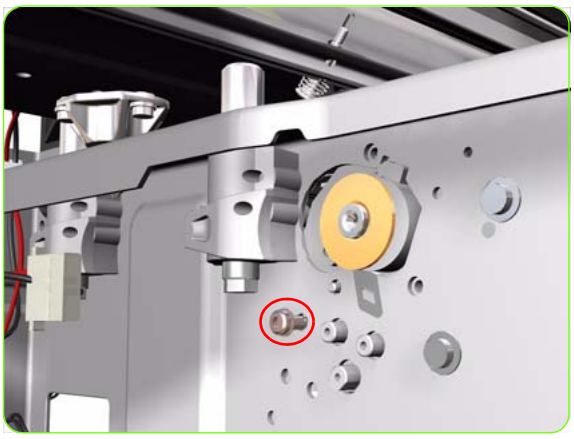
**Right Hand Side of the Printer**

To make sure that ALL the datums are met when installing the Media-Axis Motor Bracket, make sure you follow these

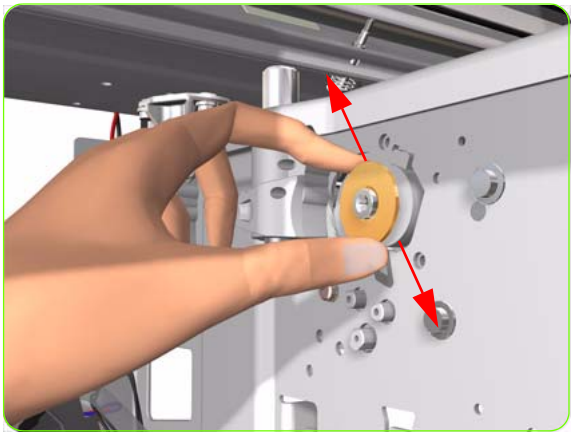
instructions:



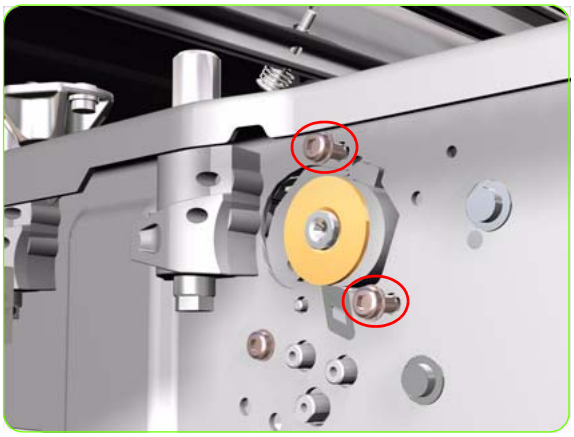
1. Place the Media-Axis Motor Bracket in the correct position on the Printer. Make sure you keep it pushed down (as shown in the illustration) until the first screw has been installed and fully tightened.



2. Install the first screw (T-15) in the position shown. Make sure you tighten the screw fully so that the Media-Axis Motor Bracket cannot be moved.



3. Check that there is no play (movement) between the Media-Axis Motor Bracket and the Drive Roller. If there is play, then check that the screw installed in the previous step is fully tightened.



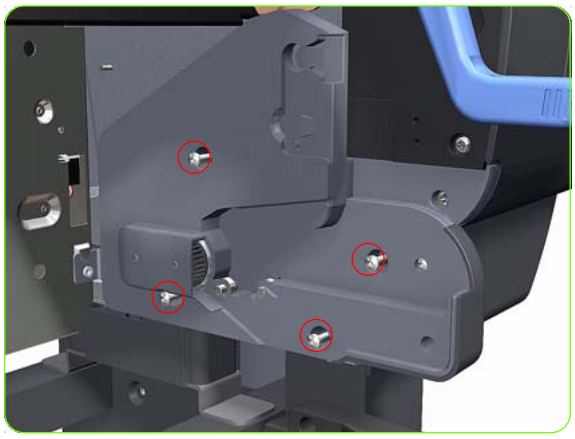
4. Install the remaining two screws (T-15) that secure the Media-Axis Motor Bracket.

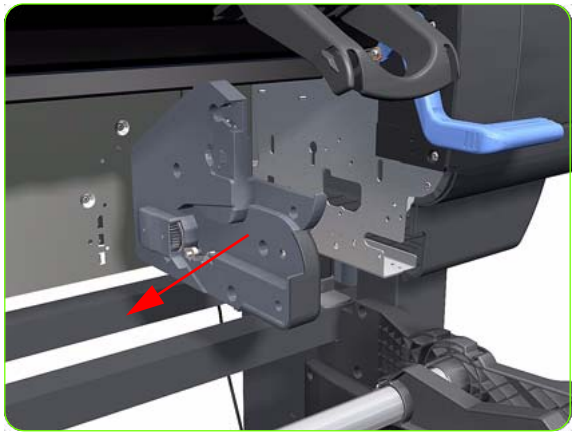
# Right Rollfeed Module Assembly

## Removal

**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Input Roller ⇒ See page 411.
2. Remove the Media Spindle (if installed).
3. Remove four T-20 screws that secure the Right Rollfeed Module.





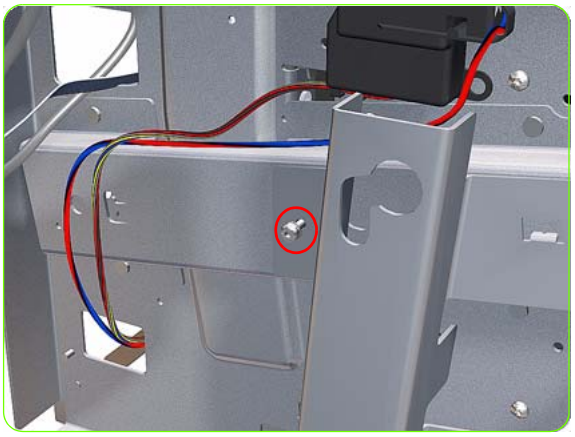
4. Remove the Right Rollfeed Module from the Printer.

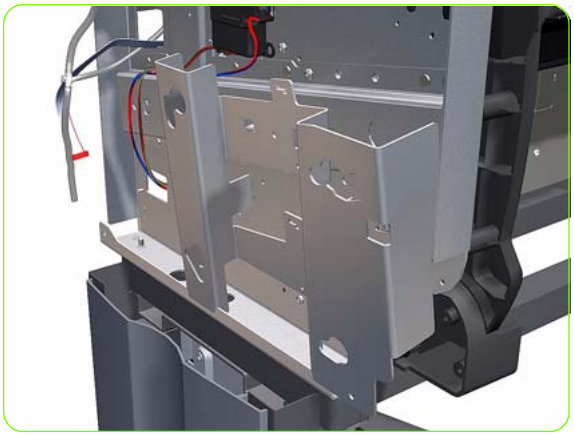
# Left Rollfeed Module Assembly

## Removal

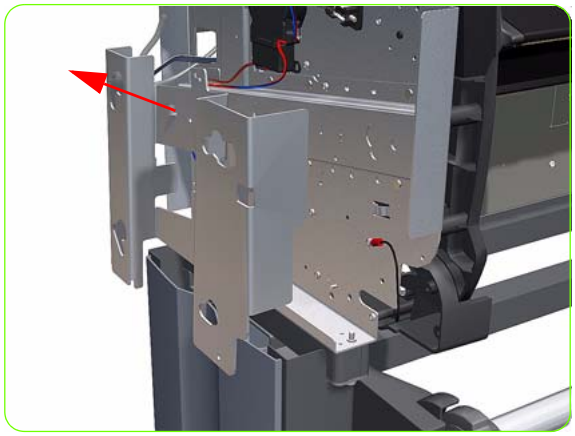
**WARNING!:** Switch off the printer and remove the power cable.

1. Remove the Left Cover ⇒ See page 270.
2. Remove the Ink Supply Station ⇒ See page 321.
3. Remove the Input Roller ⇒ See page 411.
4. Remove the APS Assembly ⇒ See page 324.
5. Remove the Left Spittoon ⇒ See page 328.
6. Remove the Media Spindle (if installed).
7. Remove one T-15 screw that secures the APS Mounting Plate to the Printer.

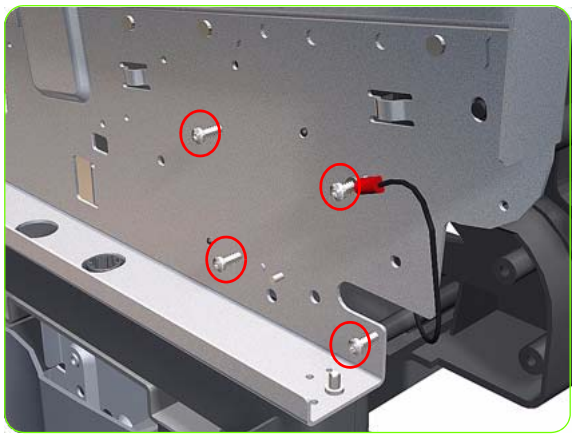




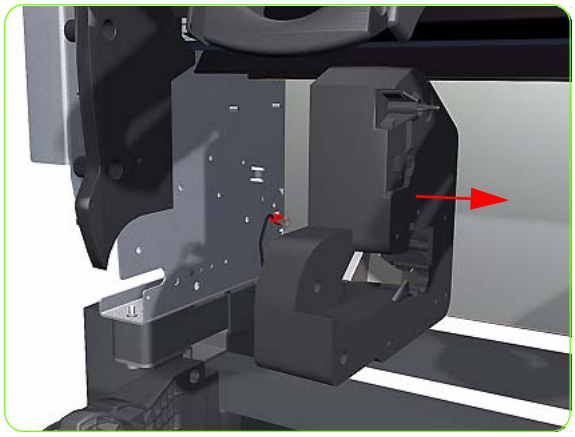
8. Tilt out the top of the APS Mounting Plate support.



9. Remove the APS Mounting Plate support from the Printer.



10. Remove four T-20 screws that secure the Left Rollfeed Module to the Printer.



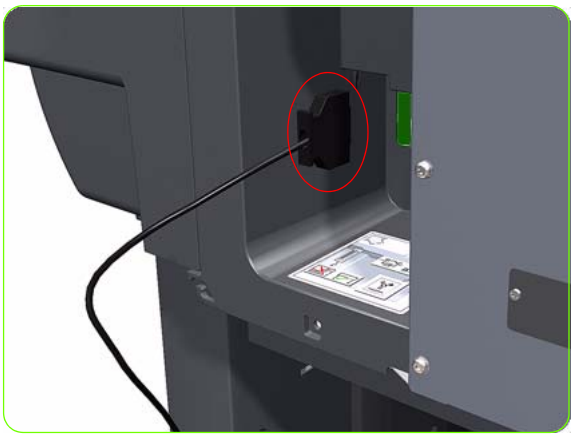
11. Remove the Left Rollfeed Module from the Printer.

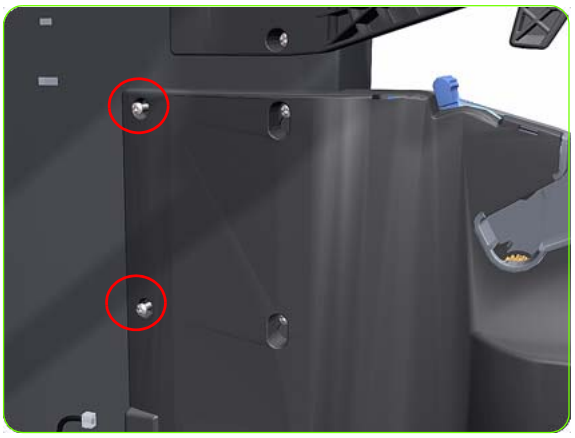
# Take-Up Reel Motor

## Removal

**WARNING!:** Switch off the printer and remove the power cable.

1. Close the Paper Bin (if open).
2. Disconnect the Take-Up Reel Motor from the Parallel Port on the rear of the printer.

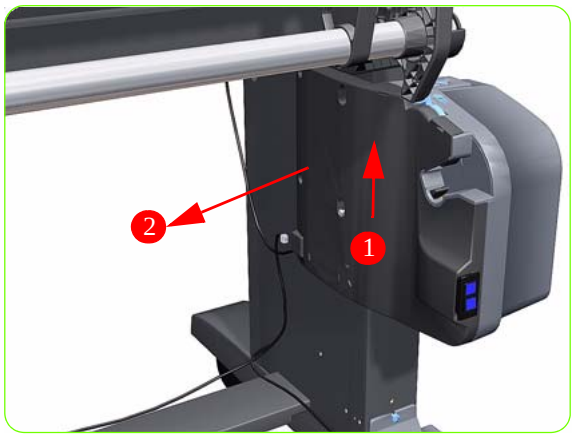




3. Remove the two rear T-20 screws that attach the Take-Up Reel Motor to the Right Leg Assembly.

4. Loosen the two front T-20 screws that attach the Take-Up Reel Motor to the Right Leg Assembly.

5. Disconnect the Take-Up Reel Sensors from the Take-Up Reel Motor.




6. Lift the Take-Up Reel Motor sufficiently so you can remove it from the Right Leg Assembly.

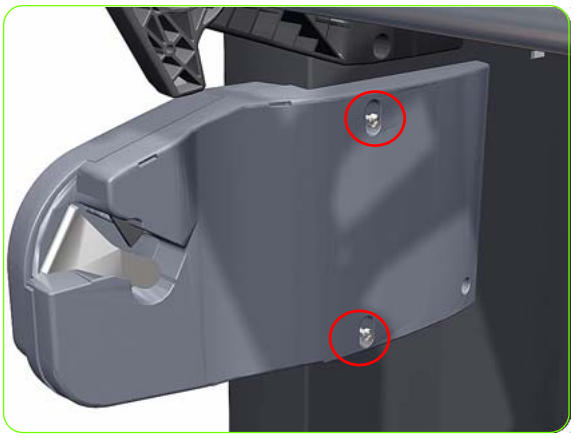
# Take-Up Reel Left Hand Module

## Removal

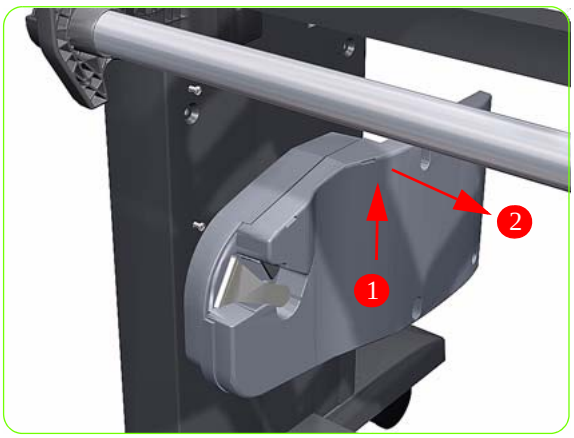
**WARNING!:** Switch off the printer and remove the power cable.

1. Close the Paper Bin (if open).
2. Remove one rear T-20 screws that attaches the Take-Up Reel Left Hand Module to the Left Leg Assembly.

3. Loosen the two front T-20 screws that attach the Take-Up Reel Left Hand Module to the Left Leg Assembly.



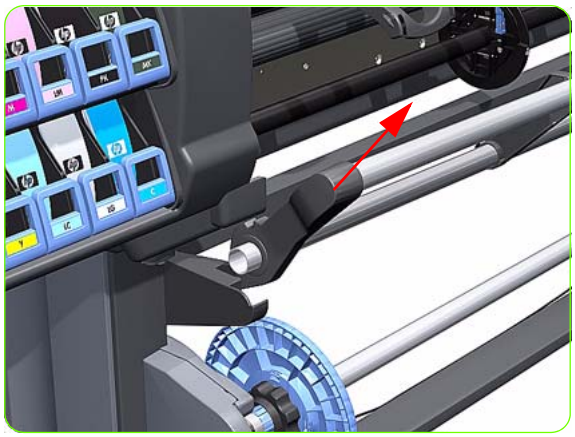
4. Lift the Take-Up Reel Left Hand Module sufficiently so you can remove it from the Left Leg Assembly.



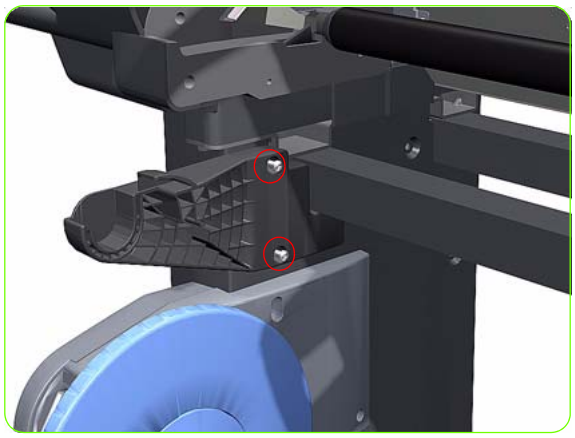
# Take-Up Reel Deflector Supports

## Removal

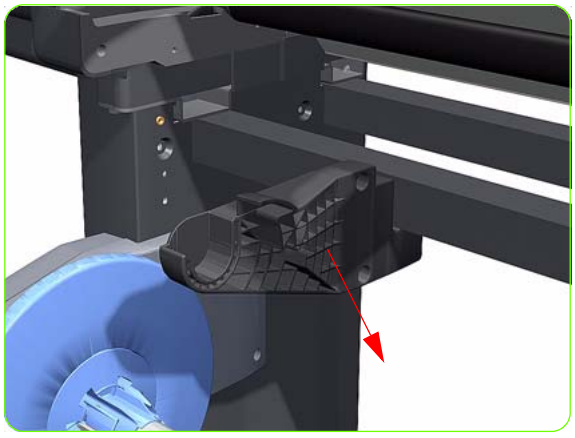
**WARNING!:** Switch off the printer and remove the power cable.



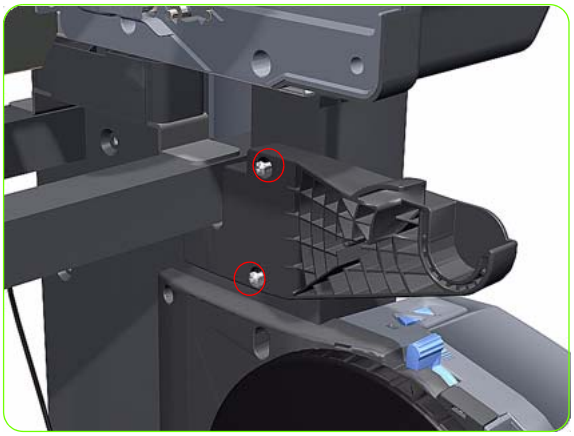
1. Close the Paper Bin (if open).
2. Remove the Take-Up Reel Deflector from the printer.



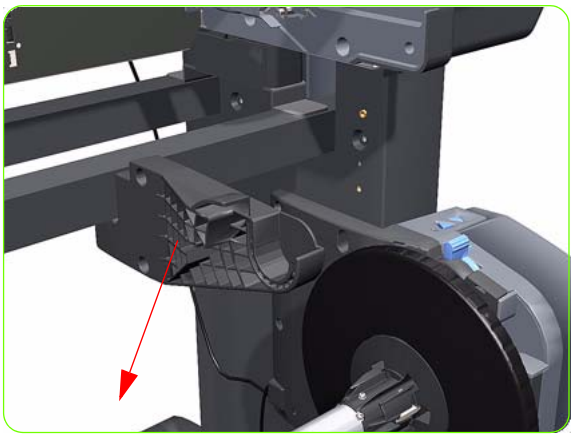
3. Remove the two T-20 screws that attach the Left Hand Deflector Support to the Left Leg Assembly.



4. Remove the Left Hand Deflector Support.



5. Remove the two T-20 screws that attach the Right Hand Deflector Support to the Right Leg Assembly.



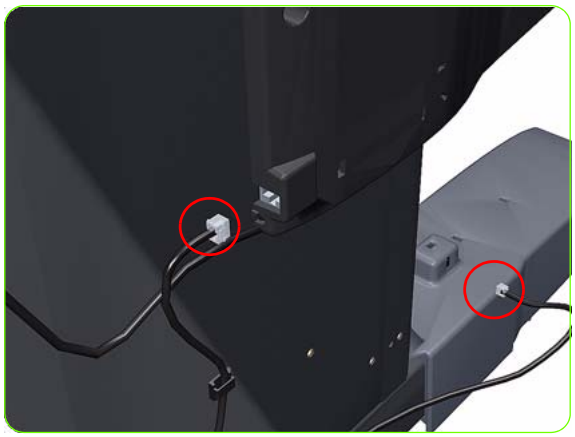
6. Remove the Right Hand Deflector Support.

# Take-Up Reel Sensors

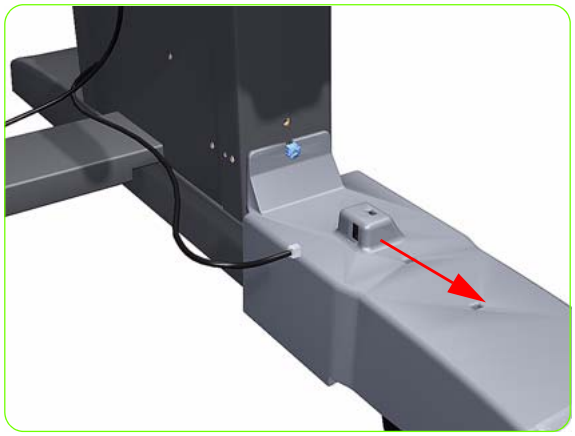
## Removal

**WARNING!:** Switch off the printer and remove the power cable.

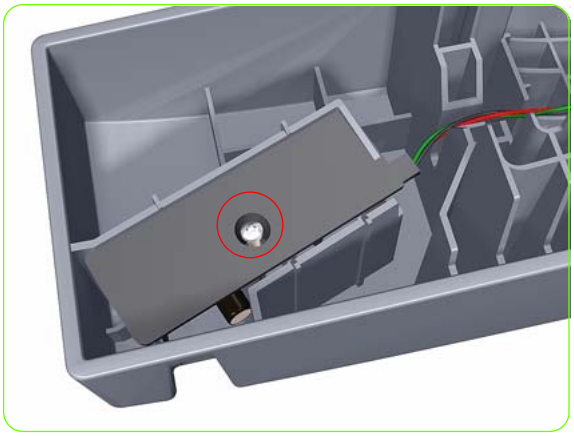
1. Close the Paper Bin (if open).
2. Disconnect the Take-Up Reel Sensors.



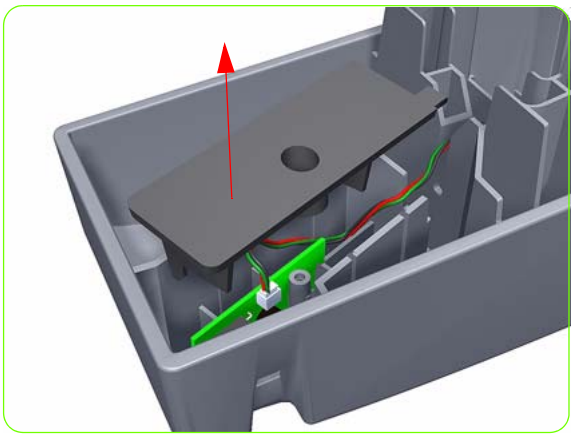
3. Remove the blue thumbscrew that attaches the Take-Up Reel Sensors to the Right Foot Assembly.



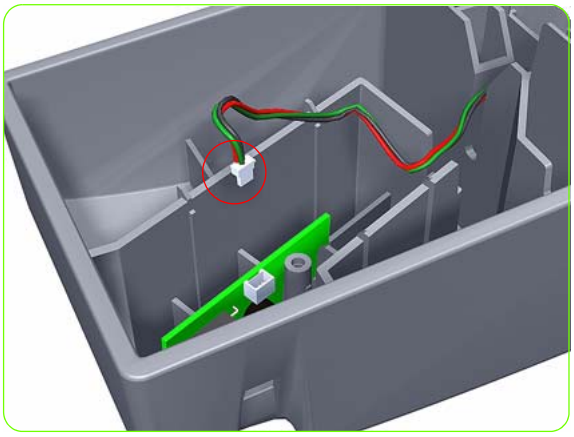
4. Slide the Take-Up Reel Sensors off the Right foot Assembly.



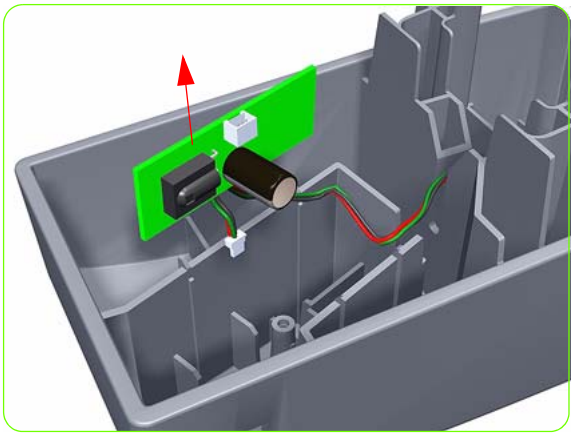
5. Remove one T-15 screw that attaches the cover of the receiver sensor to the housing.



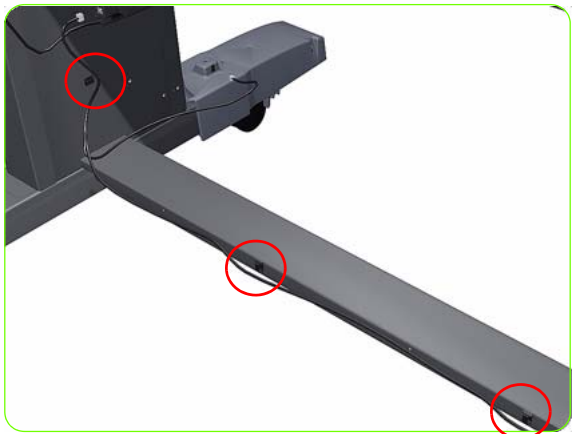
6. Remove the cover of the receiver sensor to the housing.



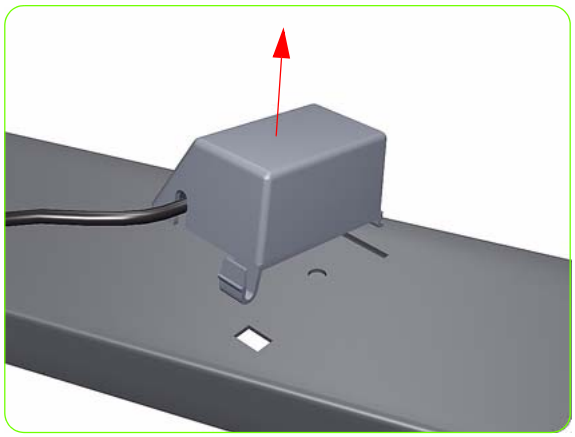
7. Disconnect the connector from the receiver sensor.



8. Remove the receiver sensor from the housing.



9. Unroute the Take-Up Reel Transmitter Sensor cable.



10. Unrclip and remove the Take-Up Reel Transmitter Sensor from the X-Brace Assembly.

# 9 Preventive Maintenance


- Moisture on the Printer ..... 452
- Noisy Carriage Bushing ..... 452
- Belt Swelling ..... 452
- Cleaning the Printer ..... 452
- General Cleaning ..... 452
- Cleaning the Drive Roller and Overdrive ..... 452
- Cleaning the Platen ..... 453
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- Applying Oil to the Overdrive ..... 458
- Lubricating the Carriage Assembly ..... 458
- Scheduled Maintenance ..... 460
- Level of Printer Usage ..... 460

# Preventive Maintenance

## Moisture on the Printer

Users should use the Printer in an environment between 20% and 80% relative humidity. To recover from moisture condensation, turn the Printer Off, and, using the main roller as a reference, wait until the Printer is completely dry before using it again.

## Noisy Carriage Bushing

To prevent noisy movement of the carriage, remove aluminum or dust particles from the bushing at the back of the carriage, and from the slider path along which the bushing moves.

## Belt Swelling

To prevent new belts from swelling incorrectly, keep them in their bags with desiccant until you need to install them.

## Cleaning the Printer

To maintain the Printer in good operating condition, keep it free of dust accumulation, ink, and other contamination. Cleaning intervals are determined by the Printer environment and by the types of Printer supplies used.

## General Cleaning

Proper general cleaning should include the following:

**WARNING!:** To prevent an electric shock, make sure that the Printer is switched OFF and unplugged before any cleaning is performed. Do NOT let any water get inside the Printer.

1. Clean the outer surface of the Printer with a damp sponge or cloth. Use a mild soap and water solution if necessary. Do not use abrasive cleaners.
2. Wipe the Printer dry with a soft lint-free cloth.

## Cleaning the Drive Roller and Overdrive

**CAUTION:** If ink is spilled on the Overdrive, remove the ink immediately. Due to the ink's reflectance, ink on the Overdrive can disrupt the Printer's edge-sensing function. To remove any ink from the Overdrive, perform the following procedure.

**CAUTION:** Prevent water or other liquids from running onto electrical components or circuits, or through openings in the Electronics Module.

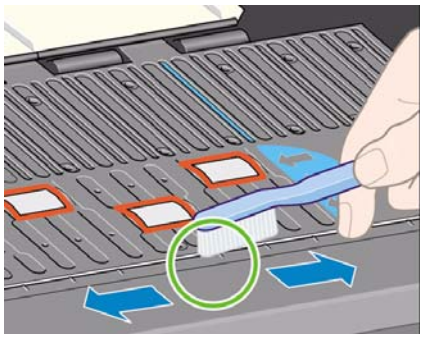
1. Perform the Turn Drive Roller Utility (Refer to page 134).
2. Open the window and apply any common household cleaning solution (water based only) to a soft, lint-free rag and apply it to the Drive Roller and Overdrive surface while it is rotating. Make sure that you thoroughly clean the Drive Roller and Overdrive surface.
3. Press **Enter** when you have completed the cleaning procedure.
4. Allow the Drive Roller to dry before loading media in to the Printer.

## Cleaning the Platen

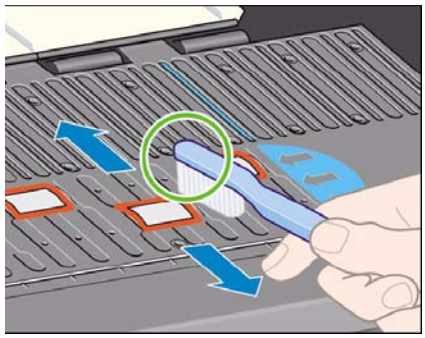
**CAUTION:** If wide paper is used to print after narrower paper is used for some time, you may find that the left hand side of the Center Platen has become dirty and will leave marks on the back of the paper if not cleaned.

It is recommended to clean the Center Platen on a regular basis (at least every few months or when required) as follows:

1. Unload any media loaded from the Printer.
2. Open the Window and with a dry brush remove ink deposits from the Cutter Groove and the Center Platen surface.



Cutter Groove

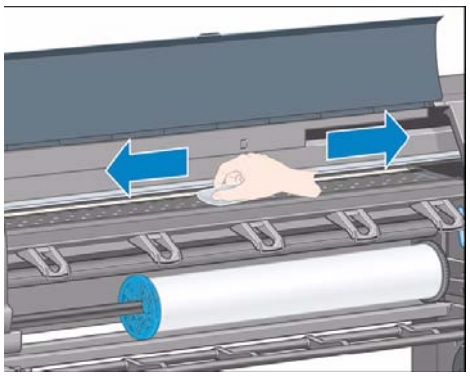


Center Platen Surface

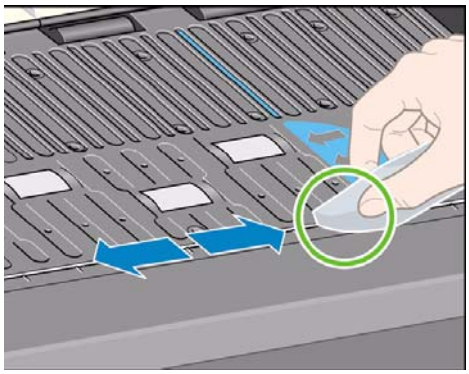
3. Use a clean, absorbent lint-free cloth, dampened with Isopropyl Alcohol (not supplied in the Maintenance Kit), to wipe loosened ink deposits from the Center Platen.

**CAUTION:** Do NOT:

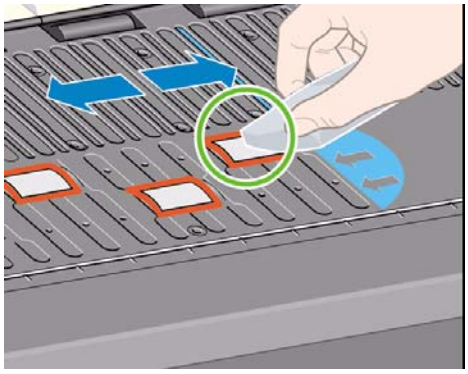
- Use commercial cleaners or abrasive cleaners.
- Wet the Center Platen directly because you will leave too much moisture behind.
- Wet the rubber wheels at all (not even with the cloth).



4. Clean the Cutter ramp with the damp cloth.



5. Clean the exposed part of the wheels with a dry cloth. Ideally, clean the whole circumference of these wheels (you can use Turn Drive Roller Utility on page 134).



## Clean the Encoder Strip

Cleaning the Encoder Strip is a vital part of the printer's maintenance and can clear a variety of system errors:

- 86:01 or 87:01sytem errors and related mis positioning of the Carriage Assembly errors, such as the carriage bumping into the side of the printer.
- 42:10 system error, related to failures starting and homing the carriage on the scan axis
- 29:01 and 29:02 system errors which cannot be cleared even after installing new Maintenance Cartridges.
- There are occasions when an encoder Strip that needs cleaning can cause media loading issues as the Carriage cannot correctly detect the position of the loading media.

### The front panel message

With the type of pigmented ink that is used in the printer, the Encoder Strip cleaning must be performed at regular intervals. Cleaning must be performed after every 10 liters of ink used. The Front Panel will display a message when cleaning is required:

"For optimal printer performance follow the
Clean the encoder strip process as described in the User Maintenance Kit"

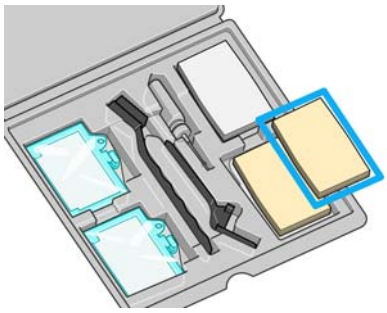
This message is displayed after every 5th job until the cleaning is performed, and the counter has been reset. This procedure is normally performed by the customer. Instructions and materials are provided within the User Maintenance kit. A kit is provided with each printer shipment. The kit can also be ordered using customer part

number Q6715A (HP Designjet Z6100 User Maintenance Kit).

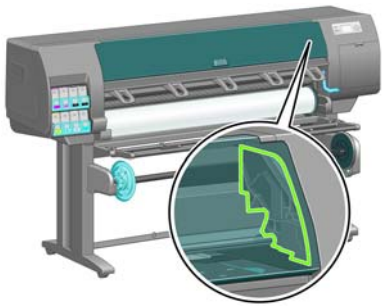
**NOTE:** When the message is displayed on the Front Panel, a 'silent' warning message is added within the system error log '8:01'. This helps when reviewing the error log history, to see if the message has been displayed.

## Cleaning Procedure

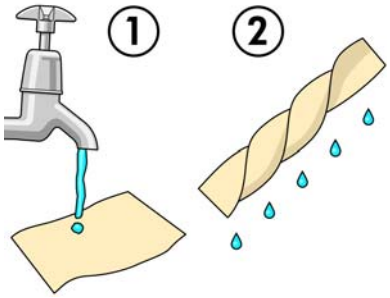
1. From the Customer Preventative Maintenance Kit use the cloth shown.



2. Make sure that the printer is idle and that Carriage Assembly is in the area of the Service Station on the right side of the printer.

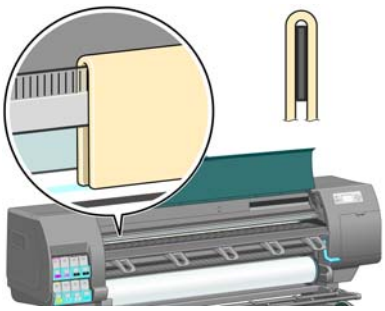


3. Wet the cloth with tap water (1)and remove any excess water (2).

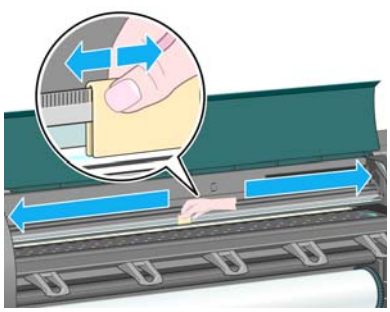


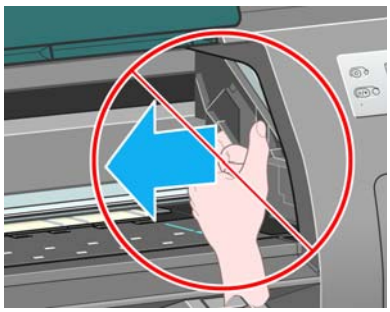

4. Open the Printer Window.

5. Hold the cloth in an inverted u shape around the encoder strip.

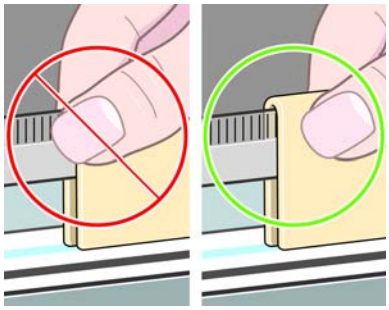


6. Carefully wipe along the length of the Encoder Strip until there is no ink residue remaining on the Encoder Strip. Do not remove the Carriage Assembly from the Service Station yet.

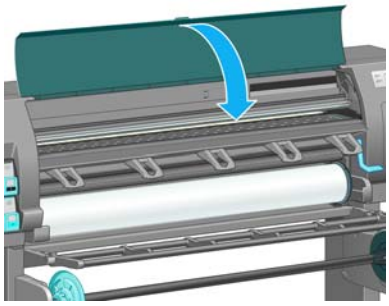




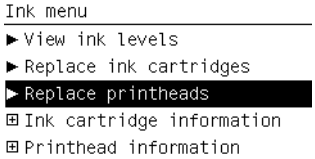
7. Use enough force to remove the ink residue but be very careful not to scratch the Encoder Strip with your fingernail or any other object.



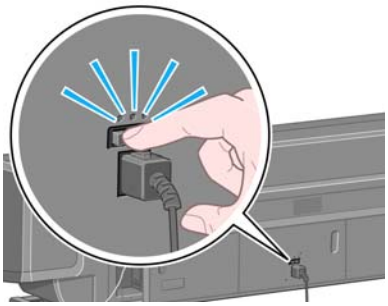
8. Lower the Printer Window.



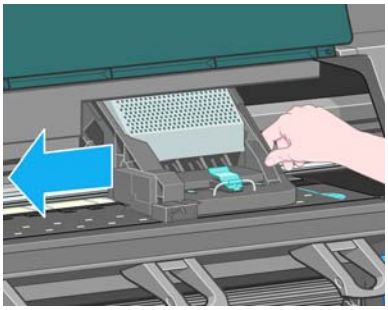
9. From the Front Panel select the ink icon and select 'Replace Printheads'. The printhead carriage moves towards the center of the platen.



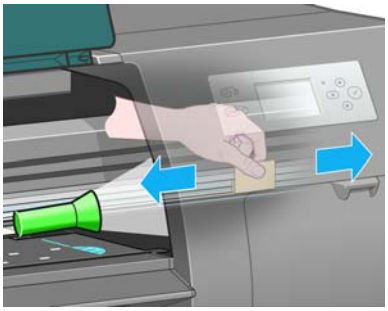
10. Switch Off the Printer from the back.



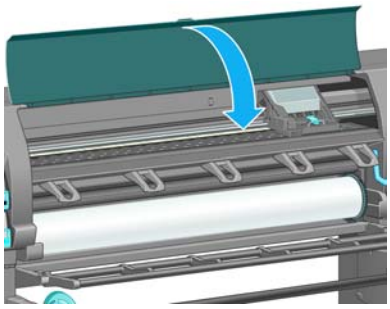
11. Open the Printer Window and move the Carriage Assembly further to the left.

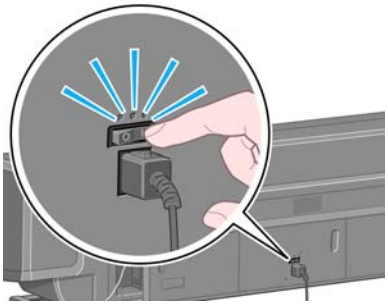


12. Clean the part of the Encoder Strip inside the Service Station.



13. Close the Printer Window and turn On the printer.



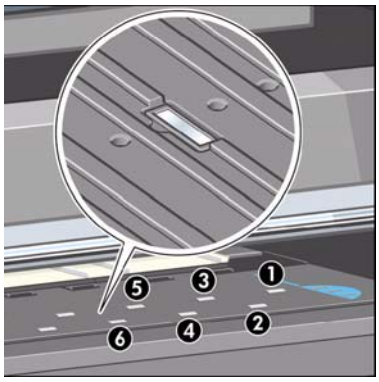


14. From the Front Panel, select the Setup icon and then select **Resets>Reset Encoder Cleaning**

## Clean the paper-advance sensor window

The paper advance sensor is the very small rectangular window (less than 1 square centimeter in size and shown in the following graphic) near the sixth platen roller from the right.

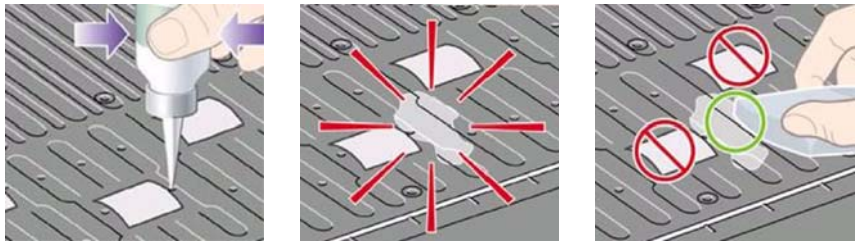
Use a clean, absorbent, lint-free cloth that you have slightly dampened with isopropyl alcohol to very gently wipe any dust and loosened ink deposits from the sensor window.




## Applying Oil to the Overdrive

Occasionally, it maybe necessary to oil the Overdrive in order to stop the rollers from squeaking:

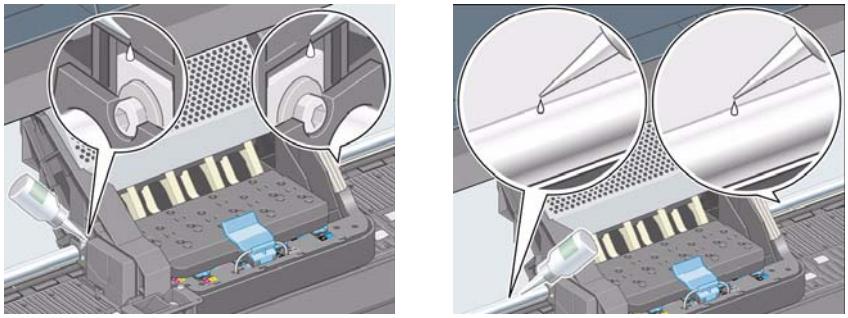
1. Open the Window.
2. There are small holes in the Center Platen beside some of the rollers.
3. A bottle of oil is supplied with the Maintenance Kit. Insert the pointed end of the bottle into each hole in turn, and put three drops into each.
4. Be very careful not to spill any oil onto the Center Platen.
5. If there is oil on the Center Platen, wipe it away with the cloth supplied with the Maintenance Kit.
6. Close the Window.



## Lubricating the Carriage Assembly

The Carriage Assembly needs to be lubricated occasionally (at least once a year) so that it can slide easily along the Slider Rod.

1. Using the Front Panel, in the Printheads menu, select “Replace printheads now”. The Carriage Assembly will move to the center of the Printer.
2. Open the Window and apply a few drops of oil (bottle of oil can be found in the Maintenance Kit) to the pads on either side of the Carriage Assembly.
3. Apply a few drops of oil directly to the Slider Rod on either side of the Carriage Assembly.



# Change the maintenance absorber

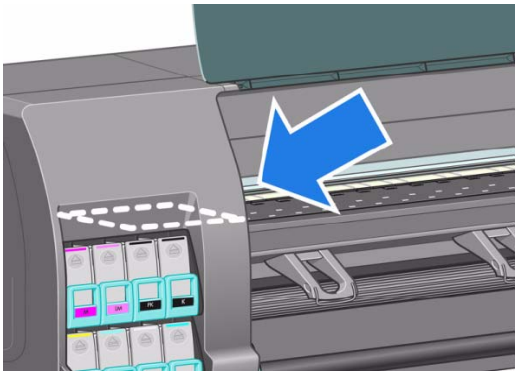
An alert appears on the printer front panel when the maintenance absorber is reaching its maximum saturation and again when the absorber should be changed.

**CAUTION:** The absorber can become excessively dry and fail to function correctly in climates where the relative humidity is consistently below 25%.

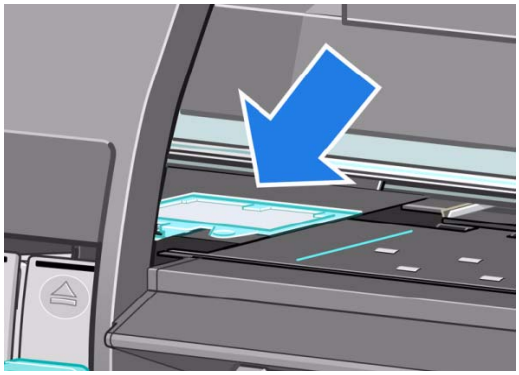
**CAUTION:** A saturated or excessively dry maintenance absorber can cause severe damage to the printheads and other parts of the printer. HP strongly recommends that you promptly change the maintenance absorber when alerted.

## Remove the maintenance absorber

1. Find the maintenance absorber and disposable plastic gloves that are included in the maintenance kit that came packaged with your printer.
2. On the printer's front panel, select the icon, and then select the option to replace the maintenance absorber.
3. Open the printer window.
4. Identify the left spittoon.



5. Locate the maintenance absorber.

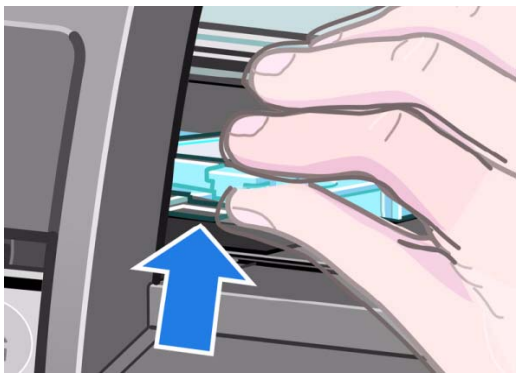


6. Lift the tab that extends from the front edge of the absorber.

**NOTE:** Use the disposable plastic gloves to avoid getting ink on your hands.

7. Lift the tab on the absorber until it is clear of the spittoon and you can easily grip the tab.

8. Lift and remove the absorber from the spittoon.



9. Dispose of the soiled maintenance absorber according to your local regulations.

### Insert the maintenance absorber

1. Grip the new maintenance absorber as shown.
2. Insert the back edge of the absorber into the fitting in the spittoon.
3. Use your thumb to slide the absorber to the back of the fitting in the spittoon.
4. Push down on the tabbed edge until you hear the absorber click into place. Make sure that the top of the maintenance absorber is seated flatly and that none of the corners are higher than the plane of the platen.
5. Press the OK button on the front panel. The printer verifies that the maintenance absorber is correctly seated. If the front panel shows a message that it is not seated correctly, remove the maintenance absorber, insert it again, and then press the OK button.

## Scheduled Maintenance

In some segments of the printer market, the customer tends to print more than the maximum number of prints that the throughput allows, exceeding by far the limit of the design. When this happens the customer runs into print quality problems and continuous Printer failures.

The purpose of scheduled preventive maintenance is to avoid these failures - ensuring a good performance during all the product life.

## Level of Printer Usage

Normal printer use means 6,000,000 Carriage Cycles (which corresponds to approximately 100,000 A0 prints on average). Under normal usage conditions, it will be approximately 5 years before the printer needs maintenance. If the printer is used more than the normal usage conditions, then it will need maintenance service much more frequently.

One of the EEROM counters is assigned to counting the number of carriage cycles. When certain components of the Printer exceed this amount, the front panel displays the following message:

"Maintenance #1 required"

The following message is triggered depending on the total quantity of ink spitted in each Spittoon.

"Maintenance #2 required"

Once one of the maintenance advised messages is displayed, the preventive maintenance kit must be used to replace the most worn parts of the printer. Use the Removal and Installation Chapter of this Service Manual as a guide to replace the necessary parts.

The following PM Kit covers both Maintenance advised messages:

## Preventive Maintenance Kit #1

This Preventive Maintenance Kit #1 contains the following components:

- Encoder Strip ⇒ page 331
- Encoder spring+Nut ⇒ page 332
- Carriage PCA Cover⇒ page 334
- Belt Tensioner Assembly⇒page 347
- Cutter Assembly ⇒page 319
- Redial Retainer Assembly ⇒page 437
- Line Sensor Cable ⇒page 390
- Air Purges (Setup Printheads)
- Aerosol foam protector ⇒ page 391
- Carriage Assembly (with Encoder sensor)⇒ page 339 (does not include PCA, Cutter, nor Color Sensor).
- Ink Supply Tubes and Trailing Cable ⇒ page 312.
- Tubes retaining clip⇒ page 278
- Scraper Assembly and Absorber Foams⇒ page 303
- Scan-Axis Motor ⇒ page 346.
- Belt Assembly ⇒ page 345.

You must also clean the holes in the Service Station which are located under the Maintenance Cartridge and that the Aerosol Fan is funcioning correctly.

## Preventive Maintenance Kit #2

This Preventive Maintenance Kit #2 contains the following components:

- Aerosol Filter ⇒ page 300.
- SVS Aerosol Fan assembly ROHS ⇒ page 300.
- Ink Absorber ⇒ See User's Guide
- Left spittoon ⇒ page 328.
- Color Sensor ⇒ page 392.
- Line Sensor ⇒ page 390.
- Encoder Strip ⇒ page 331

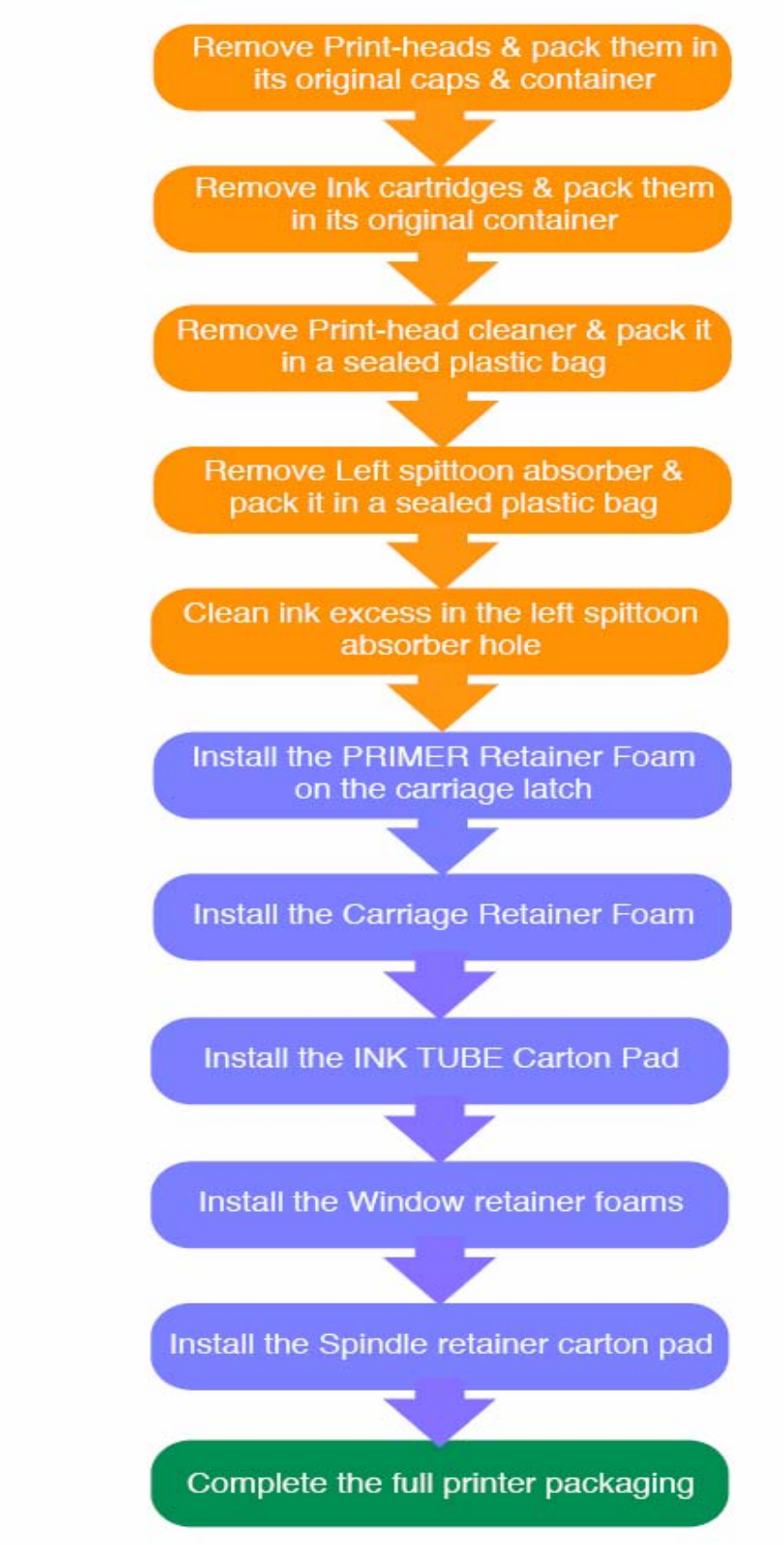
You must also clean the holes in the Service Station which are located under the Maintenance Cartridge and that the Aerosol Fan is funcioning correctly.

# 10 Repacking instructions


- Special Set-up checks and re-packaging instructions for EMU units..... 464
- Step 1: Removing the consumables from the printer..... 466
- Step 2: Re-installing the retention parts.....470

# Special Set-up checks and re-packaging instructions for EMU units

The following illustration provides the required repacking flow:


Remove Print-heads & pack them in its original caps & container
Remove Ink cartridges & pack them in its original container
Remove Print-head cleaner & pack it in a sealed plastic bag
Remove Left spittoon absorber & pack it in a sealed plastic bag
Clean ink excess in the left spittoon absorber hole
Install the PRIMER Retainer Foam on the carriage latch
Install the Carriage Retainer Foam
Install the INK TUBE Carton Pad
Install the Window retainer foams
Install the Spindle retainer carton pad
Complete the full printer packaging

## Carefully read the Instructions

Carefully read this document and ensure the processes described are performed properly. This way, every time the printer user has to unpack and set-up the unit, it will be as stated in the set-up poster.

## ReUse the packaging material

Do not throw or dispose the packaging components as they have to be reused every time the printer needs to be shipped to elsewhere.

There are generic packaging components like the adhesive tape, plastic strips, etc. that can not be reused in all the cases. Ensure you have some spare tape to complete the packaging process (industrial tape can be used in most of the cases)

There are critical packaging components, listed on next pages, designed to lock some printer system during transportation. These components must be stored until re-packaging is needed.

If these components are not available, thus not installed. the transport conditions may damage some printer components.

## Check the printer status before switching on the unit

Attached you will find some instruction on basic checks before the unit is turned on. By checking these, the customer can ensure that the unit is ready to work, even after lot of transport cycles (In most of the cases!).

The objective of this document is to explain the process of re-packaging a printer for further shipments

## Do not dispose the packaging elements

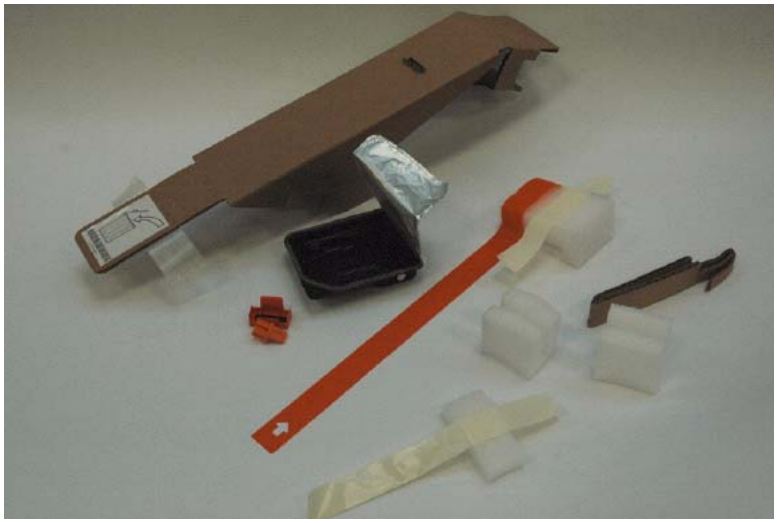
To enable the proper re-packaging of the printer it is very important to keep the packaging elements that initially came with the units.

These elements once re-installed will ensure that the printer that be shipped elsewhere withstanding the normal transport conditions.

The main packaging elements required to repack the printer are:

- End Caps & POREX supplements, Carton boxes & Pallet
- Plastic Bag
- Adhesive tape (reinforced type)
- Ink tube retainer carton pad
- Carriage retainer foam
- Primer retainer foam
- Spindle retainer carton pad
- Others (zip plastic bags, adhesive tape, etc.)

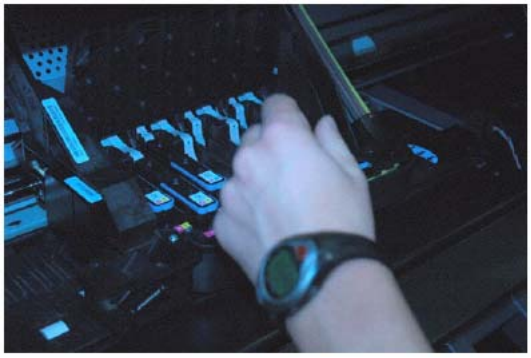
See the following picture to identify the special packaging elements to secure printer components:



## Step 1: Removing the consumables from the printer

The first step before proceeding to re-pack the unit is to remove the media, ink consumables (print-heads & ink cartridges) & print-head cleaner from the printer.

- With the unit switched ON, request a print-head replacement trough the Front Panel menu.
- Once the carriage is on the platen area, switch OFF the printer trough the rear power switch.
- Open the window, open the carriage latch & proceed to remove all the print-heads. Printhead re-packaging instructions are also provided



- Once all the Print-heads are removed, close the carriage latch and close the window.
- Open the Right Door (Service Station door) and manually pull the SVS Carriage up to the front.
- Remove the Maintenance Cartridge. Re-packaging instructions are also provided. Please, take special care when handling the cleaner. It may be full of ink so do not flip over or you will get a severe ink spill.

- Remove the Ink cartridges on the left side of the printer.

## Re-packaging the Ink consumables

The print-heads must be re-packed with its original packaging. This is the best way to ensure the pen health during transportation.

The ORANGE caps must be reinstalled in the print-heads, then it has to be placed back into its container. It can be sealed by some adhesive tape.

The ink cartridges must be stored back into its boxes.

The Maintenance Cartridge can be stored back into its bag, but to ensure no ink spills during manipulation & transport, a zip plastic bag is recommended to properly seal this part.

**Option 1**: Re-use the cleaner bag, sealing with adhesive tape.

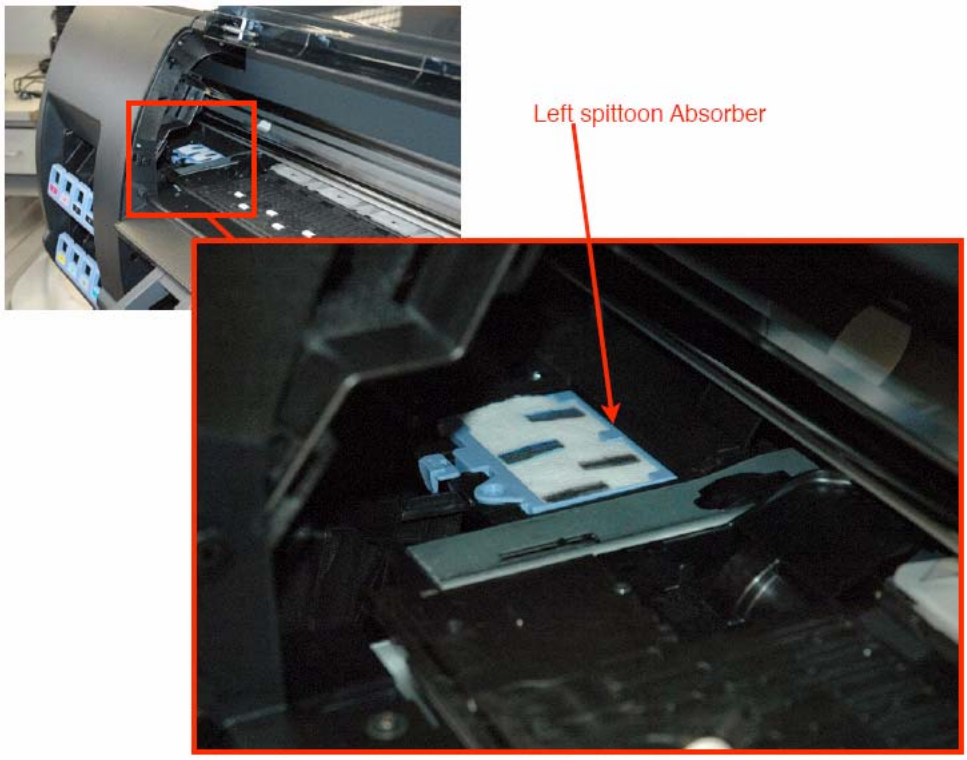
**Option 2**: Use a zip plastic bag, auto-sealing.

## Removing the Left Spittoon Absorber and cleaning the ink excess

The ink absorber on the left spittoon must be removed to ensure no INK spills once the printer is packaged upside down. This part is easily removable (customer replaceable part) as shown in the pictures.

The Maintenance & cleaning kit provided includes some plastic gloves to be used during tasks requiring contact with ink covered parts.

- Open the window and locate the left spittoon absorber, as shown in the attached picture.

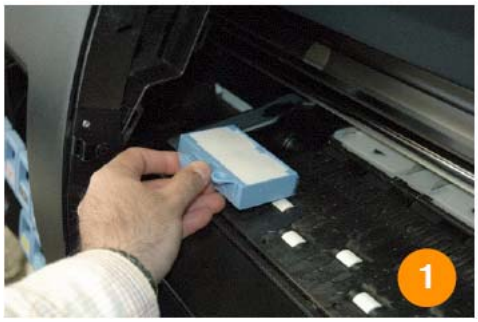


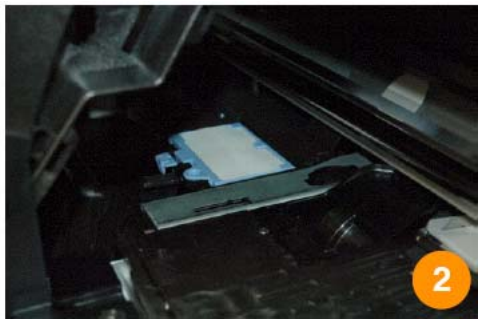

- Remove the absorber by releasing the clip and pulling upwards.

- Store the absorber in a sealed plastic bag until it is re-used.

- Clean the Absorber cubicle with a paper towel or fabrics towel, removing any ink excess that may spill once the unit is turned upside down.

- Re-install the Absorber before proceeding to package the unit. If the removed absorber is full of ink, it is recommended to install a new one to avoid ink spillage during transport. In the Maintenance and Cleaning Kit you can find 2 extra absorbers. You can use any of the new ones.



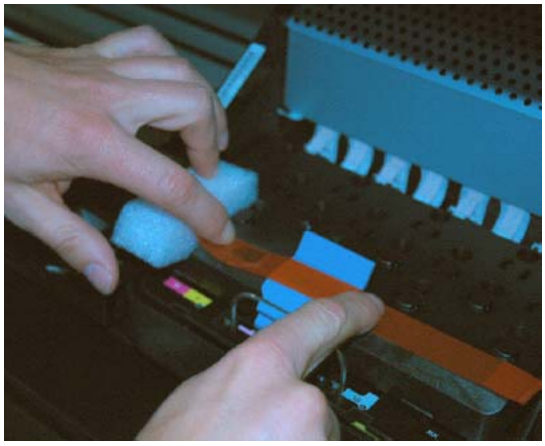

# Step 2: Re-installing the retention parts

## PRIMER retention foam

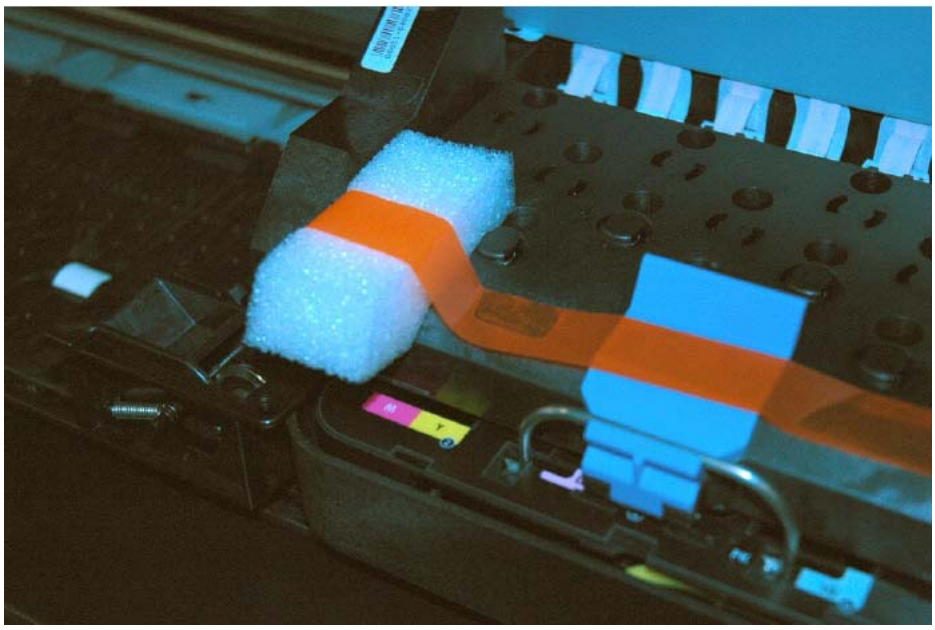
The first part to secure is the carriage. Before it is secured, the PRIMER retention foam must be pasted on it. Follow the detailed process:

- Open the window and ensure the carriage latch is closed. No print-heads or dummy pens (purgers) must be in the carriage at this stage.

- Paste the PRIMER retention foam on the carriage latch, at the left side as shown in the picture.

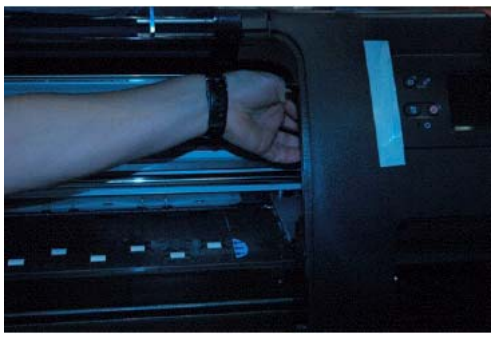


- **Important:** Make sure that the foam is placed as shown in the pictures, then secure it with an adhesive tape.

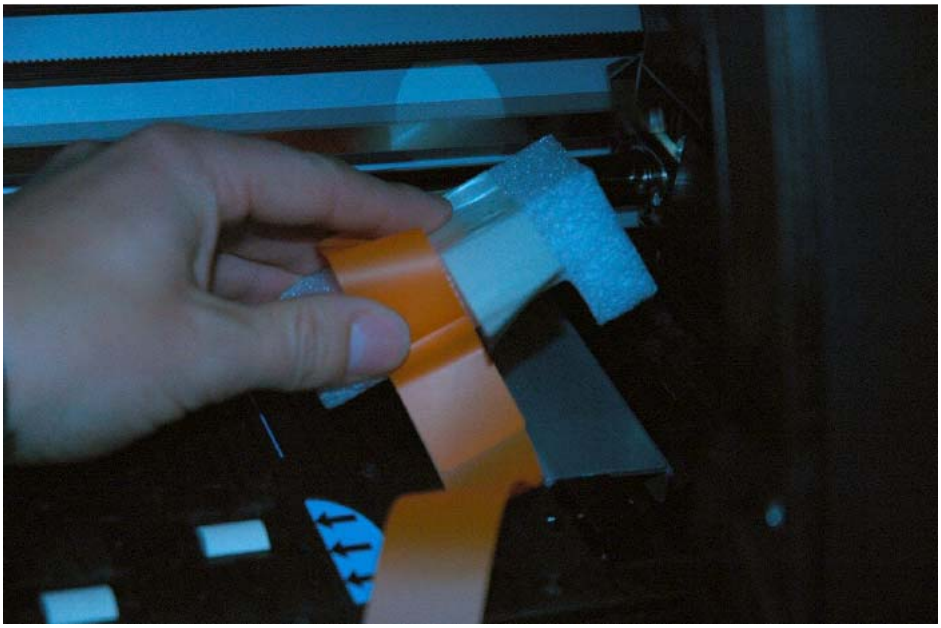


## Carriage Retention Foam

- Once the PRIMER retention foam is installed, you can push the carriage to its transport position. To do this, just push manually the carriage all the way to the right side.

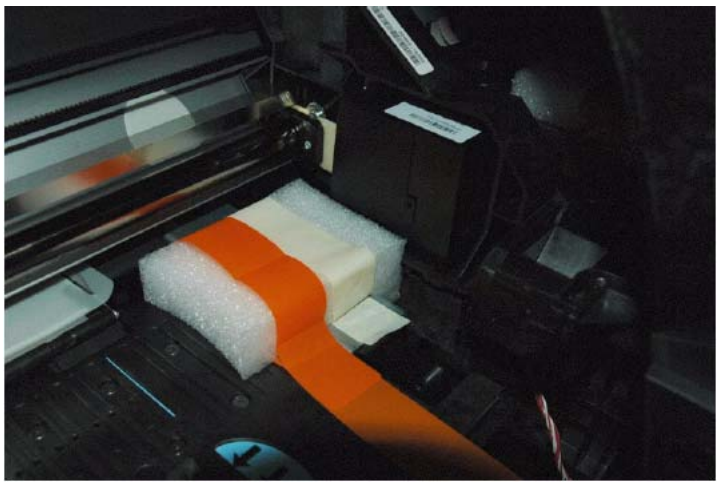


- Once the Carriage is against the right stop, insert the foam in the slot between the metal side plate and the service station, as shown in the picture. Secure the foam in place by using adhesive tape.



By properly inserting the foam the foam in the slot, the carriage will not move towards the left direction during transport.

**Important:** Notice the white tape that secures the foam to the metal plate.



Ensure that the orange tape hangs as shown in the picture, so the next user finds it and does not forget to remove when un-packaging the printer.

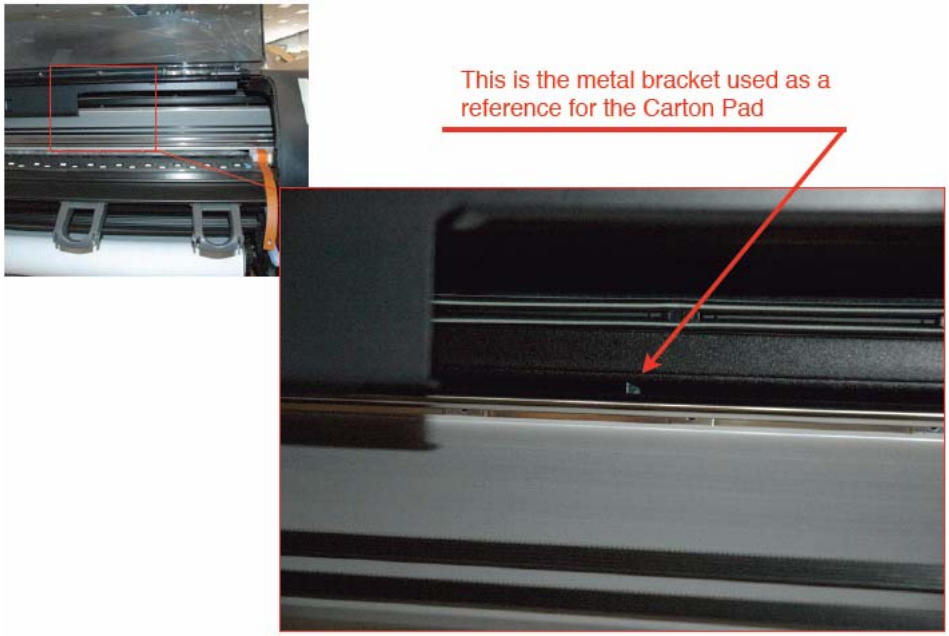
## INK TUBES Carton Pad

The next retainer to be assembled is the INK tubes carton pad. This feature holds the INK tubes in place while printer is transported. Properly assembling this carton pad is extremely important, mainly in 60" units where the risk of ink tubes falling out of place is higher.

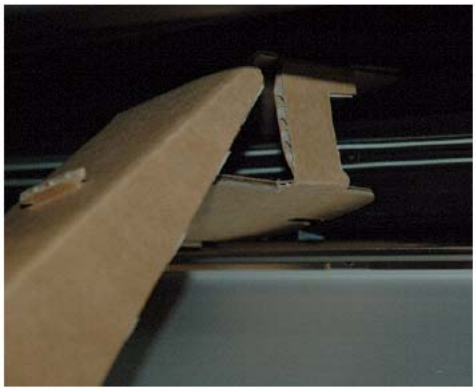
The carton pad must be inserted in a specific location. First step is to locate the reference feature. This reference is a metal bracket visible once window is open.

In the following picture you can see the area where this feature is located.

The carton pad has a slot where the metal bracket must be inserted.




Once the metal bracket reference is located, insert the carton pad ensuring the bracket is inserted into the carton pad slot.

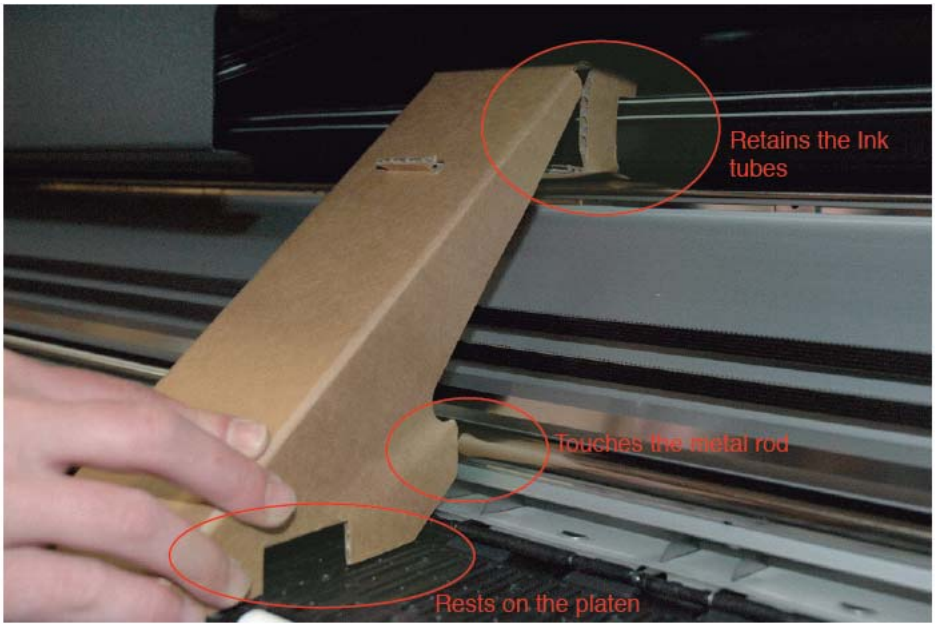


The carton pad is inserted perpendicular to the front face of the printer and rests on the print platen, as shown in the picture.

While is being placed, please, ensure the metal gets into the carton slot. This will prevent the carton to move during transportation.

Once properly assembled, the carton pad it will rest on the platen, and it will retain the tubes from falling during transport.

The following picture shows the carton pad properly installed:



Secure the carton pad to the output platen with 2 trips of adhesive tape, as shown in the following pictures.

## Window retainer foams

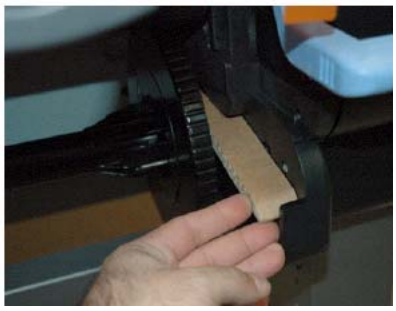
Insert the retainer foams in both right and left sides of the window, then close it.

Once the foams are inserted, you can secure the window with 2 adhesive tape stripes.

## Spindle retention carton pad

- Ensure that there is no media roll installed into the spindle.
- Install the spindle in the printer

- Insert the carton pad in the Right spindle support, to prevent it from moving during transport.



All the transport retention parts have been installed now. Next packaging steps are the reverse process to the one described in the Set-up Poster.

The summarized steps follow:

- Cover the printer with the antistatic bag & install both Foam End-caps.
- Detach the printer from the stand and place it on the pallet. Ensure that the printer is flipped upside down to enable the later installation by next customer.

Disassemble the TUR & STAND and pack it in its original boxes, following the reverse set-up process.

Once the printer is on the pallet, close the bag and secure it with adhesive tape.

Add the carton box, then place on top of it the TUR & STAND boxes (for 60" only, in the case of 42-inch, the box only contains the STAND).

The rest of parts like ink supplies, cables, manuals, CDs, etc. must be placed in the side boxes.

Take special care when storing the print-heads on its box. They must be stored in vertical position, ensuring that the white dot is on top. This way the print-head will not be internally damaged during the transport. See attached picture for your reference.

The printhead special layout in the box is shown in the following picture:

Complete the boxes with the ink supplies, print-head cleaner, cables, 3" core adaptor, CD, etc., and place them over the printer box.

Add the lateral carton pads and strip the boxes together.

Add the carton Lid and strip the pack again as shown in the picture.

The unit is now ready to be shipped.

# Special checks before turning-ON the printer

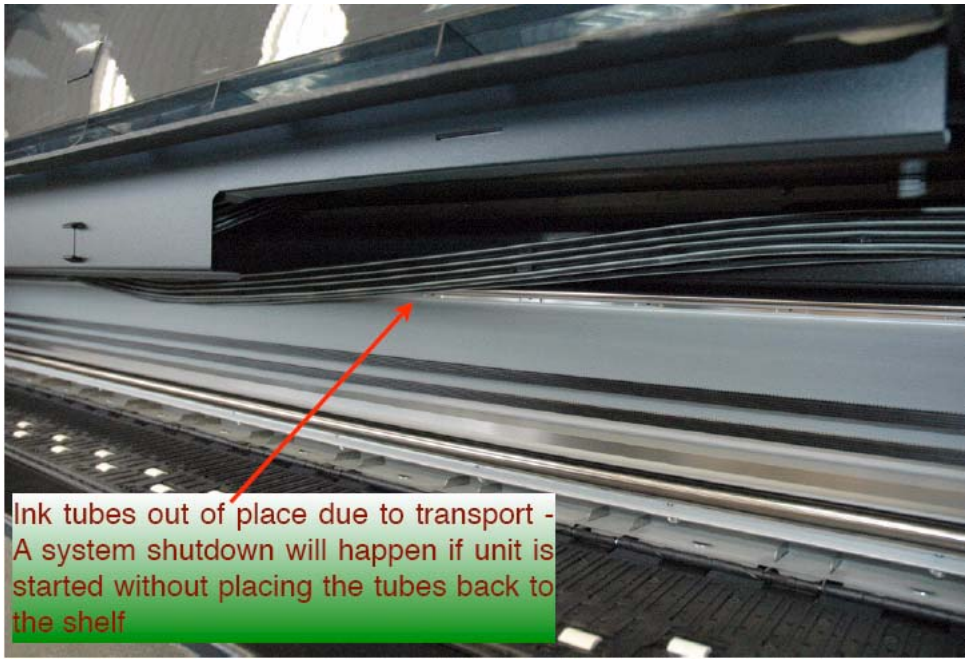
If the printer was properly packaged before the shipment, the risk of having problems during the switching on process is very low. In any case is worth to check the details we highlight, to ensure that there is not functional problem when starting the printer.

## Check the INK TUBES are in its place

Once the packaging elements have been removed, you have to open the window and check that the tubes are not out of place.

If it is the case, you have to re locate them manually, just by placing them on the plastic rail (or tube shelf) so the carriage moves freely along the print zone without clashing with the tubes.

Refer to the attached pictures


Ink tubes out of place due to transport -
A system shutdown will happen if unit is
started without placing the tubes back to
the shelf

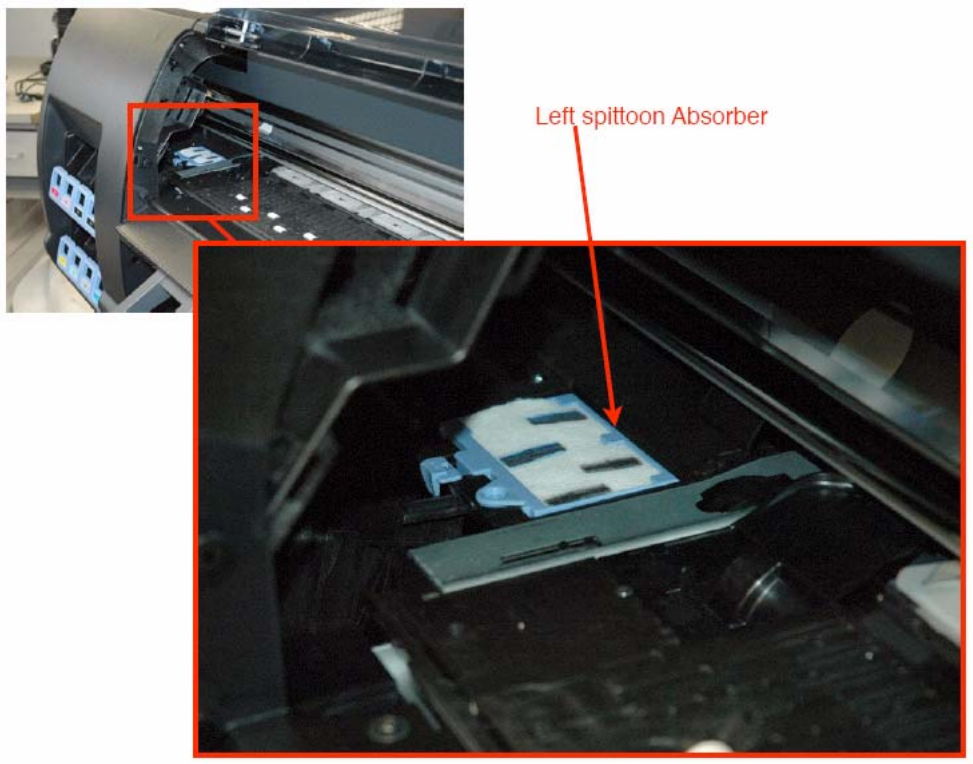
Ink tubes are placed back in its tube guide, as shown in the picture above.

## Check the Left spittoon absorber is installed

This part comes installed in the printer, and should not be replaced until the front panel shows the message, but due to the several printer shipments required, to prevent from ink spillage we are requesting in some cases to remove this component before packaging the unit.

In the case that the absorber is not heavily used (easily identifiable by checking the ink dirtiness on it), it does not need to be removed during transport.

In any case, it is important to check that the absorber is installed into the left spittoon. This can be done by opening the window and locating it on the left side of the print platen, as shown in the attached picture.




If the spittoon is not installed, then install one of the available in the Maintenance & Cleaning Kit that goes with the printer.